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RESEARCH REPORT

Who is Detained Past Statutory Release?

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Who is Detained Past Statutory Release?

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Executive Summary

Key words: community reintegration, detention, release decisions, risk, Aboriginal offenders.

Federal inmates who are not granted early discretionary release must be released to community supervision after serving two-thirds of their sentence (known as the Statutory Release Date [SRD]). This legislation is designed to facilitate gradual community reintegration. However, the Correctional Service of Canada (CSC) may detain offenders past their SRD if certain criteria are met. Detention is intended for offenders serving a determinate sentence for a violent offence causing death or serious harm, a sex offence against a child, or a serious drug offence, and who are considered likely to recommit such an offence before their sentence expires.

The purpose of the current study was to examine what factors predict detention decisions and to explore whether detention decisions differed between Aboriginal and non-Aboriginal offenders after controlling for differences in risk. Analyses examined sex offenders and non-sexually violent offenders separately, and included diverse predictors such as static and dynamic risk factors, offence information, demographics, and institutional behaviour.

The study included 21,323 non-sexually violent offenders (6.1% of whom were detained) and 5,653 sex offenders (14.7% of whom were detained) who had an SRD between April 1, 2004 and March 31, 2014.

The vast majority of the risk factors (static and dynamic) and institutional behaviour variables (e.g., program participation, institutional incidents, segregation placements) examined predicted detention decisions for both non-sexual violent offenders and sex offenders. The strongest predictors of detention were low reintegration potential, low motivation, and high levels of risk and need.

Generally, the most recent assessment (prior to release or to SRD) was a stronger predictor of detention decisions than the intake assessment. Additionally, most risk/need and institutional behaviour factors were more predictive of detention decisions for sex offenders compared to non-sexually violent offenders, suggesting that detention decisions for sex offenders are more strongly linked to risk factors.

After controlling for key predictors of detention, for non-sexual violent offenders, Aboriginal offenders were significantly more likely to be detained than non-Aboriginal offenders. In contrast, Aboriginal sex offenders were significantly less likely to be detained compared to non-Aboriginal sex offenders.

Given that gradual reintegration to the community has been demonstrated to have beneficial effects, detaining inmates past their SRD should be reserved for only the highest risk offenders. The current study confirms that high risk/need offenders with poor institutional behaviour are the most likely to be detained. Additional research is needed to understand differences in detention rates for Aboriginal offenders.

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Introduction

Given that virtually every offender in prison will eventually return to the community (Motiuk, Cousineau, & Gileno, 2005), gradual progression to fewer restrictions and eventually to release is a preferred case management strategy. Inmates in the Correctional Service of Canada (CSC) have the opportunity to apply for early discretionary release (e.g., day parole, full parole). Otherwise, the *Corrections and Conditional Release Act* (*CCRA*, 1992) requires that inmates be released after serving two-thirds of their sentence, to serve the remaining portion of their sentence under community supervision (this is called Statutory Release). The detention provisions of the CCRA (Sections 129-132), however, allow for offenders to be held in prison after their Statutory Release Date (SRD) if they pose an undue risk to the community.

The primary intent of detention is to protect the community from offenders who are deemed too dangerous to serve the last portion of their sentence in the community. The process is a reverse onus compared to other forms of conditional release. That is, for day parole or full parole, offenders must demonstrate that they are suitable for early release. With detention, the assumption is that the offender must be released, and the onus is on CSC to demonstrate to the Parole Board that the offender cannot be safely released. Detention decisions for detained offenders are reviewed annually.

For offenders serving a sentence for a Schedule I offence (violent offences), the criteria for detention is that their offence must have caused death or serious harm to another person and there are reasonable grounds to believe that if they are released, they are likely to commit another offence causing death or serious harm before their sentence expires (i.e., before the Warrant Expiry Date [WED]). Sex offences would fall under this criteria, but a 1996 amendment specified that offenders serving a sentence for a sexual offence involving a child can also be detained if they are likely to commit another sex offence against a child before their sentence expires (i.e., the requirements for serious harm are waived). Offenders serving a sentence for a Schedule II serious drug offence (such as trafficking, importing, or cultivating) can be detained if they are likely to commit a serious drug offence before their WED. The detention criteria, therefore, specifies three types of offenders eligible for referral: violent offenders, sex offenders (specifically, sex offenders against children), and serious drug offenders.

Offenders serving indeterminate sentences (e.g., Lifers, Dangerous Offenders) have no

WED and are, therefore, not eligible for detention. It is possible to detain offenders not currently serving a sentence for a violent or drug offence, but these exceptional cases must be referred to the Commissioner of CSC first.

Parole Board Decision Making

Parole boards must balance public safety with the principles of rehabilitation and using the least restrictive course of action necessary. There is limited guidance available to parole board members for how to weigh factors in their parole decisions (e.g., Serin, 2004). There has been a similar lack of research on how parole board members make their decisions and which factors are most influential. Of the research that is available, an important limitation is that studies generally combine all predictors of release decisions together in one statistical model. This does not directly address which factors are related to release decisions; instead, it asks whether the factors are related to release decisions after controlling for everything else in the model. The more factors that are included in the model, and the more they are associated with each other, the more this can wash out the unique contribution of any single factor, underestimating its impact.

Not surprisingly, research suggests that release decisions have been highly influenced by staff recommendations (e.g., Morgan & Smith, 2005), even beyond all other significant predictors (Wieand, 1983). Victim participation in the decision making process (written or inperson) decreases the likelihood of release being granted (Smith et al., 1997). This relationship, however, may disappear after controlling for other risk factors (Caplan, 2010; Matejkowski et al., 2011). The offender's participation in the hearing increases the likelihood of release (Smith et al., 1997). Contrary to expectations, two studies found that release decisions were unrelated to offence severity (Matejkowski et al., 2010; Smith et al., 1997). Release decisions have also been found to be unrelated to the race of the offender in several studies (Caplan, 2010; Feder, 1994; Huebner & Bynum, 2006; Matejkowski et al., 2010; Matejkowski et al., 2011; Morgan & Smith, 2005; Ostermann, 2011).

In terms of offence type, some studies found that offenders serving for sexual offences were less likely to be released than offenders serving for other offence categories (Porter, ten Brinke, & Wilson, 2009), and others found no relationship (Matejkowski et al., 2010; Ostermann, 2011). Research generally found that whether the offence was violent (typically coded based on the current offence) was unrelated to release decisions (Caplan, 2010; Manguno-

Mire, Thompson, Bertman-Pate, Burnett, & Thompson, 2007; Matejkowski et al., 2010; Ostermann, 2011), though one study found violent offenders were more likely to be released (Matejkowski et al., 2011) and another found they were less likely to be released than other offenders (Feder, 1994).

Age of the offender has been variously associated with release decisions. Older age has been significantly related to release (Manguno-Mire et al., 2007), denial of release (Caplan, 2010; Huebner & Bynum, 2006; Ostermann, 2011), or unrelated to release (Feder, 1994; Matejkowski et al., 2010; Matejkowski et al., 2011; Morgan & Smith, 2005). There has also been mixed results for the role of social supports, which predicted release in one study (Wieand, 1983) but not others (Feder, 1994; Matejkowski et al., 2010; Matejkowski et al., 2010; Matejkowski et al., 2011). Level of education has been related to release in some studies (Feder, 1994; Huebner & Bynum, 2006; Matejkowski et al., 2010; Matejkowski et al., 2011) but not all (Morgan & Smith, 2005). One study found that offenders who were lower risk as measured by the Level of Service Inventory – Revised (LSI-R; a validated dynamic risk assessment scale; Andrews & Bonta, 1995) were more likely to be released (Ostermann, 2011), but in another study, LSI-R scores were unrelated to release decisions (Matejkowski et al., 2010). Only one study addressed the impact of institutional behaviour on release decisions and it found that poor institutional behaviour predicted release wherein offenders with a history of poor prison behavior were less likely to be paroled (Feder, 1994).

The research evidence is somewhat more consistent for the role of offence history in release decision making. Less extensive criminal histories predicted release in several studies (Feder, 1994; Huebner & Bynum, 2006; Matejkowski et al., 2010; Matejkowski et al., 2011; Ostermann, 2011). Surprisingly, participation in treatment programs has typically been unrelated to release decisions (Matejkowski et al., 2010; Matejkowski et al., 2011; Smith et al., 1997), with one study noting an exception to this general finding (Ostermann, 2011).

Another interesting (and understudied) area is the effect of measures of psychopathy on release decisions. There are plausible hypotheses in both directions. On the one hand, given that psychopathy is a strong predictor of recidivism, psychopaths should be less likely to be granted early release. Alternately, the interpersonal features of psychopathy (conning, manipulative, superficial charm) may facilitate release because psychopaths could convince parole board members that they are reformed. There is some evidence that offenders scoring higher on

measures of psychopathy have been able to convince treatment providers that they have made positive gains (Seto & Barbaree, 1999) and were also more likely to receive early release in the form of parole (Porter et al., 2009). However, Manguno-Mire and colleagues (2007) found that lower PCL-R scores (total, Factor 1, and Factor 2) predicted release among individuals found not guilty by reason of insanity, and Hart, Kropp, and Hare (1988) found that low psychopathy scores also significantly predicted parole release. Worth noting is, with the exception of the Manguno-Mire and colleagues (2007) study, the decision-makers were unaware of psychopathy scores.

Overall, there are few consistent findings about what predicts release decisions. As noted by Gobeil and Serin (2009), the contradictory findings suggest important variability in parole decision-making. Variability across studies in methodological and statistical approaches also complicates the interpretation of findings.

Previous Research on Detained Offenders

Given the reverse onus in detention (i.e., the presumption of release), it is possible that the decision making process for detention hearings differs from parole decisions for discretionary release. As such, it is useful to examine research on detention separately. Helmus (2015) recently found that between April 1, 2004 and March 31, 2014, roughly 4% of offenders with determinate sentences in the Correctional Service of Canada (CSC) were detained. Sex offenders were most likely to be detained (15%), whereas approximately 6% of offenders with a non-sexual violent offence were detained, and less than 1% of serious drug offenders were detained. Women were less likely to be detained than men, and Aboriginal offenders were more likely to be detained than non-Aboriginal offenders. Over 90% of offenders referred by parole officers to the Parole Board of Canada for detention were subsequently detained.

Previous research has examined the profile of federal offenders detained. Motiuk, Belcourt, and Bonta (1995) found that detained offenders were actually lower risk on the SIR (Statistical Information on Recidivism) scale compared to non-detained offenders. Grant (1996) examined all federal offenders released between 1989 and 1993 and found that detained offenders were older than those on statutory release, but similar in age to paroled offenders. Detained offenders were more likely to have assault and manslaughter convictions, but less likely to have drug and robbery convictions. Grant (1996) also examined readmissions to federal custody. Offenders detained until their WED had similar rates of reoffending within two years

compared to offenders released on Statutory Release, suggesting that detained offenders were not necessarily higher risk.

In a more comprehensive study (though with a much smaller sample size), Nugent (2000) compared 78 detained offenders to 64 offenders released at Statutory Release on a variety of variables and measures coded from interviews and file review. After an average follow-up of 2.5 years, Nugent (2000) found that detained offenders had significantly lower general and violent recidivism rates than offenders released at Statutory Release. Detained and non-detained offenders were not significantly different on the results of the LSI-R or VRAG (Violence Risk Appraisal Guide) risk assessment scales, and detained offenders were significantly lower risk on the SIR-R1 risk scale, suggesting that at the time of this research, detention decisions were not related to the offenders' overall risk for reoffending. There were, however, some other findings suggesting that detained offenders were higher risk on at least some factors. Detained offenders had higher rates of sexual paraphilias, treatment refusal, poor treatment performance, and more violent offences (Nugent, 2000). Conversely, however, they were lower risk on a variety of variables associated with recidivism, including age (they were older), prior offences, criminal associates, employment history, interpersonal problems, and impulsivity. Additionally, detained offenders were more likely to be sex offenders, have child victims, deny or rationalize the offence, and have higher levels of offence severity. One challenge in interpreting this study relates to the high proportion of sex offenders who were detained. Given unique risk factors for sex offenders (Mann, Hanson, & Thornton, 2010), it is possible that the unexpected findings (e.g., risk factors and scales not related to detention in the expected direction) are explained by sex offenders scoring lower risk on factors related to general reoffending. Examining factors or scales specific to risk for sexual recidivism may have found more evidence for detained offenders being higher risk.

Johnson (2001) examined predictors of detention specifically among sex offenders, removing confounds due to type of offence. In an initial sample of 1,417 sex offenders and 1,777 violent offenders incarcerated in the 1990s, Johnson (2001) found that detained sex offenders used higher levels of force in their offences and were more likely to have previous revocations, prior sex offences, unrelated victims, male victims, child victims, prior non-violent offences, and to be single. Detention decisions were not significantly predicted by number of victims or treatment participation.

Some preliminary research on detention indicated that detained offenders were higher risk on some factors (particularly risk factors unique to sex offenders), but they were not higher risk on a variety of other risk factors, including structured risk assessment scales (e.g., SIR-R1, VRAG, LSI-R; Nugent, 2000). Consequently, it is unclear whether detention decisions really are targeting the highest risk offenders. One of the primary limitations of these studies, however, is the lack of appropriate comparison groups (i.e., most observed differences could be due to the higher detention rates among sex offenders). It is possible that within sex offender and violent offender populations, the highest risk offenders are, in fact, being detained. Johnson (2001) used an appropriate comparison group (other sex offenders) and found more support that risk-relevant differences were considered in the detention decision making, but her study lacked rich information on other potential predictors (e.g., dynamic risk factors) and did not examine predictors of detention for non-sex offenders.

Aboriginal Offenders

Aboriginal offenders are disproportionately represented in the Canadian criminal justice system. Currently, Aboriginal peoples represent 4.3% of the Canadian adult population (Statistics Canada, 2013) but 21% of the federal inmate population (Public Safety Canada, 2015). Among federal inmates, they are over-represented in maximum security institutions (Public Safety Canada, 2015). Helmus (2015) found that Aboriginal offenders were more likely to be detained than non-Aboriginal offenders, but these analyses did not take risk into account differences in risk factors or institutional behaviour could account for the higher detention rates of Aboriginal offenders.

Perhaps related to their unique backgrounds (e.g., the legacy of residential schools, history of discrimination, higher levels of poverty and substance abuse), North American Aboriginal offenders tend to exhibit more risk factors than non-Aboriginal offenders. Aboriginal offenders in CSC are more likely to be incarcerated for violent offences (Trevethan, Moore, & Rastin, 2002), are younger (Babchishin, Blais, & Helmus, 2012; Statistics Canada, 2006), and have higher rates of unemployment (Statistics Canada, 2006) compared to non-Aboriginal offenders. Additionally, they have lengthier criminal histories (Babchishin et al., 2012; Dell & Boe, 2000; Holsinger, Lowenkamp, & Latessa, 2003) and report more negative childhood histories, including poverty, parental absence, and behavioural and learning difficulties (Johnston, 2000; Trevethan, Auger, Moore, MacDonald, & Sinclair, 2002), supporting the notion

that Aboriginal disadvantage begins early in life. Aboriginal sex offenders are also rated higher risk on relationship instability, impulsivity, poor problem-solving, and cooperation with supervision as compared to non-Aboriginal sex offenders (Helmus, Babchishin, & Blais, 2012). Not surprisingly then, in Canada, Aboriginal offenders also have higher rates of general and violent recidivism than non-Aboriginal offenders (Gutierrez, Wilson, Rugge, & Bonta, 2013; Sioui & Thibault, 2002). Similar patterns are found in Australia, where a detailed review concluded that Australian Aboriginal offenders (compared to non-Aboriginal) exhibit much higher levels of risk factors for violence, including criminal history (particularly early onset), deficits in education/employment, substance abuse, and family violence (Shepherd, Adams, McEntyre, & Walker, 2014). Consequently, a thorough examination of detention among Aboriginal offenders needs to account for these risk factors.

Summary and Purpose of Current Study

Detaining offenders past their Statutory Release Date is highly restrictive and given that gradual reintegration to the community has been demonstrated to have beneficial effects, detaining inmates past their SRD should be reserved for only the highest risk offenders. As such, detention is intended only for offenders posing a high risk to commit a serious violent, sexual, or drug offence before the completion of their sentence. Only a small proportion of federal offenders are being detained (4%), despite a large pool of potentially eligible offenders (Helmus, 2015). Extensive research has accumulated to identify factors and scales that can assess risk for recidivism (e.g., Andrews & Bonta, 2010), but it is unclear to what extent the Parole Board of Canada (PBC) and CSC draw upon this knowledge in their decision making practices.

Given the restrictiveness of detention and its implications for public safety, it is important to better understand the detention process and ascertain whether it is targeting the most appropriate offenders. With the *CCRA* (1992) and 1996 amendments to the detention criteria, there was some research interest on this topic in the late 1990s, but there is no research on detention decisions after 2001, despite considerable advances in our knowledge of assessing risk to reoffend.

Research Questions

 What factors predict detention decisions? What factors predict detention decisions for subgroups including sex offenders and non-sexually violent offenders?

2) Given the finding that Aboriginal offenders were more likely to be detained, does the higher rate of detention for Aboriginal offenders persist after controlling for the primary predictors of detention?

Method

Population

The current study used a population of offenders who were admitted to CSC with a new Warrant of Committal (or were transferred from a foreign country) and had a Statutory Release Date between April 1, 2004 and March 31, 2014. Offenders serving indeterminate sentences were excluded because they do not have a Statutory Release Date (SRD) and are consequently not eligible for detention. If offenders had multiple federal sentences with an eligible SRD during this time period, the most recent sentence was used.

Given that it was necessary to identify whether the offender was referred for detention prior to his or her SRD, offenders who died prior to their SRD were excluded (n = 323). Offenders who were deported or extradited during their sentence were deleted (n = 82), regardless of whether the extradition occurred before or after SRD because preliminary examination of the data suggested that due to data sharing agreements between CSC and Citizenship and Immigration Canada, these inmates were often released at the earliest convenient time, knowing that they would be deported shortly thereafter. Consequently, these offenders were likely not considered for detention. An additional 305 offenders were deleted because the offenders were transferred to a foreign country or released by court order prior to their SRD. Given previous analyses that very few women or serious drug offenders were detained, this project included only men with a violent or sex offence.

The final dataset for this project included 5,653 offenders with a current sex offence and 21,323 offenders with a current sentence for a non-sexually violent offence (note that these are mutually exclusive groups; further information on the classification of the current offence is provided below). For the sex offenders, 14.7% were detained (n = 832) and 25.6% self-reported Aboriginal ancestry (n = 1,443). For the non-sexually violent offenders, 6.1% were detained (n = 1,307) and 23.3% self-reported Aboriginal ancestry (n = 4,954).

Description of Variables

Detained. The purpose of this report was to examine offenders who were identified by CSC as requiring detention based on their risk and institutional behaviour (not their post-release behaviour). Detention was therefore defined as cases where there was a documented decision to detain the offender, AND the offender had not already been released prior to their SRD during

that sentence. Consequently, offenders who were released, returned to custody, and subsequently detained were not considered part of the detention group (n = 220) because CSC's initial decision was not to pursue detention (or the PBC decided not to detain them).

Offence type. Offence type classifications were based on the offender's current sentence. An offender was classified as a sex offender if the criminal code group for their current convictions included a sex offence (including sexual morals offences), OR if the item ratings on the Static Factors Assessment (SFA; described below) reported that their current offence included a sex offence (sexual offences, current sentence for a sex offence, current sentence for a sex-related offence). An offender was classified as a non-sexually violent offender if the criminal code group for their current convictions included a violent offence (classified as homicide, attempted homicide, robbery, assault, abduction, kidnapping, weapons/explosives offences, or arson), OR if the item ratings on the SFA reported that their current offence included violence (either arson/firesetting, use of prohibited weapons, discharging firearms, forcible confinement/kidnapping, violence, attempted murder, homicide, threat of violence to victim, threaten victim with a weapon, violence used against victim, or weapons used against victim), or if they were flagged as having a Schedule I offence (which are considered violent and are part of the criteria for detention). Additionally, non-sexual violent offenders had to have no sexual offence as part of their current sentence. Consequently, an offender with both a sexual offence and a non-sexual violent offence was considered a sex offender.¹

Measures

Static Factors Assessment (SFA). The SFA (CSC, 2014; Motiuk, 1993) is a 137-item scale design to assess criminal risk based on static (i.e., historical) risk factors. It is rated for all offenders and has three subscales: Criminal History Record (CHR - 38 items), Offence Severity Record (OSR - 71 items), and Sex Offence History Checklist (SOHC - 28 items). Each item is rated as "present" or "absent." After rating all items, the officer forms an overall judgement of whether the static risk posed by the offender is low, moderate, or high. The Static Factors Report in the Offender Management System (OMS) includes the overall summary risk rating, as well as total scores for each of the subscales. Although subscale scores are not used in practice, they

¹ Preliminary analyses of predictors of detention were conducted separately for the group of offenders with both a sexual offence and a non-sexual offence. The results were not consistently or meaningfully different than those for sex offenders with no non-sexual violent offences.

were included in this study based on previous research demonstrating their moderate to strong relationships to community outcomes (Helmus & Forrester, 2014b).² The overall SFA rating is related to other measures of recidivism risk (Helmus & Forrester, 2014a) and is also related to returns to custody (Helmus & Forrester, 2014b).

Dynamic Factors Identification and Analysis (DFIA). The DFIA is a model of dynamic needs assessment that was informed by detailed reviews of the literature and by examining other scales, such as the Wisconsin Assessment of Client Needs Scale (for an overview of this early development, see Motiuk & Porporino, 1989; Motiuk, 1993). An early version, called the Community Risk/Needs Management Scale was initially adopted (Motiuk, 1993) and subsequently evolved into the DFIA. The DFIA is rated for all offenders at intake (CSC, 2014). The original DFIA consisted of 197 dichotomous indicators, organized into seven need domains: employment, marital/family, associates/social interaction, substance abuse, community functioning, personal/emotional orientation, and attitude. After rating each item, the parole officer or primary worker develops a structured professional judgement rating for each domain, on a three or four-point scale (factor seen as asset, no immediate need for improvement, some need for improvement, or considerable need for improvement; some domains do not have the first rating option). Lastly, guided by the item and domain ratings, the officer makes an overall judgement of the level of dynamic need (low, moderate, or high). The DFIA has demonstrated acceptable levels of reliability (with few exceptions) and predictive accuracy, although predictive accuracy was somewhat lower for Aboriginal offenders (Brown & Motiuk, 2005).

Following recommendations from the Brown and Motiuk (2005) review, a revised DFIA (the DFIA-R) was implemented in 2009. It has the same general structure and domains, but the total number of indicators was reduced to 100 and the rating scale for each domain has been modified. For the current study, analyses of the final overall dynamic rating used the low/moderate/high rating, regardless of whether the original or revised DFIA was used. Analyses of domains were separated for the original and revised DFIA due to different rating systems. Item analyses included only selected items where the same general definition was used in both the original and revised DFIA, and these items were combined.

² Note that this study examined CHR and OSR total scores, but not SOHC scores (as the latter applies only to subsets of offenders).

Custody Rating Scale (CRS). The CRS (Luciani, Motiuk, & Nafekh 1996; Smith, 2006) is used to inform initial security classification decisions. It has 12 items grouped into two subscales: Institutional Adjustment (5 items) and Security Risk (7 items). Each item has specific coding rules and can have up to 11 response categories. For each response category, points are assigned based on the strength of that predictor in the original development sample.

Reintegration Potential Rating. The offender's Reintegration Potential Rating is automatically calculated based on the Custody Rating Scale (a security classification scale), the Revised Statistical Information on Recidivism (SIR-R1; a static risk scale), and the SFA overall rating for non-Aboriginal male offenders (CSC, 2014; Motiuk & Nafekh, 2001). For Aboriginal and women offenders, however, it is computed based on the Custody Rating Scale, the SFA overall rating, and the DFIA overall rating. Generally, offenders with high reintegration potential are considered to not require formal interventions, though they may benefit from community interventions or other services, work placements, and risk management strategies. Offenders with medium reintegration potential ratings generally require institutional correctional programs and community maintenance. Offenders with low reintegration potential require both institutional and community interventions as well as other risk management strategies.

Motivation Level. As part of offenders' correctional plan, the motivation level of offenders is assessed (CSC, 2014). Motivation is rated as high if the offender is self-motivated and is actively addressing problem areas, medium if the offender may not fully accept the overall assessment, but will participate in recommended programs or other interventions, and low if the offender strongly rejects the need for change.

Accountability Level. As part of offenders' correctional plan, the accountability level of offenders is assessed (CSC, 2014). Accountability is rated as high if the offender accepts responsibility for actions, recognizes problems, is willing to self-disclose, displays guilt and victim empathy, and has a low level of cognitive distortions. Accountability is rated as low if none of those features are present, and moderate if the features are partially present.

Institutional Behaviour. Data on participation in Nationally Recognized Correctional Programs (excluding education) and involvement in institutional incidents was also obtained. Institutional behaviour data were restricted to the offender's current sentence (i.e., information from previous federal sentences was excluded), but prior to either the offender's first release date or their SRD, whichever was earliest. In order to account for differences in time at risk for

institutional incidents (i.e., the length of time between their admission data and their first release date or their SRD, whichever was earliest would differ between offenders), the number of institutional incidents was divided by this time period and multiplied by 100 to determine a 'rate'. This approach also applied to the number of admissions to segregation. Institutional incidents in which the offender's role was as the instigator were included. Cases where the offender was an associate or a victim were not included.

With respect to correctional program participation, participation in maintenance programming, preparation programs, and low-intensity correctional programs were not considered. Program assignments that were cancelled for administrative reasons (e.g., transfer, release) or that were still in progress were also not considered. Given that length of sentence could impact the number of programs in which an offender was able to participate the count of the number of correctional programs in which offenders participated included only the period between an offender's admission date and their first full parole eligibility date.

Procedure

All data were obtained from the Offender Management System (OMS), which is the computerized offender file management system maintained by CSC. For the DFIA (overall and domain ratings), Reintegration Potential, and Motivation Level ratings, the initial assessment was obtained, as well as the most recent assessment (either a pre-release assessment, or pre-SRD assessment for detained offenders). Additionally, selected items from the SFA and DFIA were examined, as well as variables related to institutional behaviour (e.g., institutional incidents, participation in Nationally Recognized Correctional Programs, segregation placement).

Overview of Analyses

All analyses were conducted separately for non-sexually violent offenders and sex offenders. Analyses to identify predictors of detention used the Area Under the Curve (AUC) from receiver operating characteristic curve analyses. The AUC is an effect size statistic appropriate when one variable is dichotomous (e.g., detention) and the other is either dichotomous, ordinal, or interval (Swets, Dawes, & Monahan, 2000). AUC values can vary between 0 and 1, with .500 indicating no difference on the predictor variable between detained and non-detained offenders. AUCs below .500 indicate that offenders with higher scores on the predictor were less likely to be detained. AUC values between .500 and 1 indicate that offenders

with higher scores were more likely to be detained. To interpret effect sizes, an AUC of .560 was considered a small effect size, while .640 reflected a moderate effect, and .710 reflected a large effect size, as these values roughly correspond to Cohen's *ds* of .2, .5, and .8 (see Rice & Harris, 2005). Conversely, AUC values of .440, .360, and .290 reflected small, moderate, and large effect sizes in the opposite direction. AUCs between .441 and .559 were considered trivial in magnitude. In the body of the report, statistical significance and 95% confidence intervals were not discussed; however, more detailed statistical information (including 95% confidence intervals were intervals) were reported in appendices to facilitate integration with research findings outside CSC (e.g., inclusion in future meta-analyses).

Logistic regression (Hosmer & Lemeshow, 2000) was used to examine whether Aboriginal ancestry predicted detention after controlling for other key risk factors for detention. Logistic regression is a form of regression in which the dichotomous dependent variable (detention: yes/no) is transformed into log odds. The B_1 (i.e., slope) is an estimate of the predictive accuracy of the predictor. It estimates the average increase in detention rates (expressed as a log odds ratio³) associated with each one-score increase in the predictor. For easier interpretation, log odds ratios are transformed into odds ratios. For example, if a dichotomous predictor has an odds ratio of 2, this means the odds of being detained are 2 times higher for offenders with that risk factor compared to offenders without it. For a continuous predictor, it would mean that the odds of detention increases twofold for each one-point increase on the predictor. If multiple predictors are entered into one logistic regression model, the slope for a predictor is interpreted as the odds ratio after controlling for all other predictors in the model. This allows tests of the incremental accuracy of predictors (i.e., their unique predictive value). This was used to determine whether Aboriginal ancestry was associated with detention after controlling for other predictors of detention. In these analyses, statistical significance and confidence intervals are reported because they are associated with modeling the effects of more than two predictor variables (Mohr, 1990).

Analyses examined which factors were associated with detention beyond Statutory Release. Analyses were separated for sex offenders and non-sexual violent offenders given that the detention criteria focus on risk for different outcomes (e.g., a violent offence versus a sexual

³ With one predictor variable, logistic regression estimates two regression coefficients (B_0 and B_1). The B_0 (i.e., intercept) is the predicted detention rate (in log odds) for offenders who score a 0 on the predictor (if multiple predictors are entered, it is the base rate for offenders scoring 0 on all predictors).

offence against a child), which are known to have different risk factors (Hanson & Morton-Bourgon, 2004). Consequently, predictors of detention are expected to differ for these offender types.

Results

This section presents summary tables to highlight which factors were related to detention for sex offenders and non-sexual violent offenders. The tables also highlight the size of the relationship (trivial, small, moderate, or large), and indicate whether the factor was a stronger predictor of detention for sex offenders or non-sexual violent offenders. For each predictor, additional descriptive data (i.e., percentages or means and standard deviations, effect sizes) are provided in the appendices.

In the total population, 15% of sex offenders and 6% of non-sexual violent offenders were detained after their Statutory Release Date. Table 1 summarizes the results for factors related to institutional behaviour, including completion of programming (restricted to participation in Nationally Recognized Correctional Programs until offenders' full parole eligibility dates), involvement in institutional incidents, and placements in segregation (incidents and placements in segregation are presented as rates per period of time at risk – see Methodology section for more information). Table 1 also notes whether the effect size was larger for sex offenders or non-sexually violent offenders. More detailed information for these analyses is presented in Appendix F (for dichotomous variables) and Appendix A (for continuous variables, such as age and sentence length). For example, Appendix F indicates that 35% of sex offenders with a previous federal sentence were detained compared to 10% of those who had no previous federal sentence. For non-sexually violent offenders, 10% of those with a previous federal sentence were detained compared to 5% of those with no previous federal sentence. In both groups, those with a prior federal sentence were at least twice as likely to be detained. Table 1 summarizes this information, indicating that the effect size was moderate for sex offenders and small for non-sexually violent offenders.

Table 1

Relationship between Detention and Individual History and Institutional Behaviour

	Sex		Non-Sexual
_	Offenders		Violent Offenders
Item	AUC		AUC
Age at admission	Small(negative)	>	Trivial
Sentence length	Small	<	Small
Any previous federal sentence	Moderate	>	Small
Any program completed	Moderate(negative)	>	Moderate
Any program dropped	Trivial		(negative)
Any program dropped	Trivial	>	Trivial
Any high intensity program completed	11111111	>	1 fivial Moderate
Any moderate intensity program completed	Moderate(negative)	>	(nogetive)
Any violent program completed	Trivial		(negative)
Any living skills program completed	Trivial		Trivial
Any say offender program completed	Moderate(negative)		Trivial
Any substance abuse program completed	Trivial		Trivial
Any substance abuse program completed	1111/141		1111141
Any incident	Moderate	>	Trivial
Any violent incident	Small	>	Small
Any incident involving death	Trivial	<	Trivial
Any incident involving assault	Small	>	Small
Any incident involving escape or UAL	Trivial	>	Trivial
Any incident involving	Small	>	Trivial
contraband/unauthorized item			
Any incident involving behaviour	Small	>	Trivial
Any incident involving self injury	Trivial	<	Trivial
Any incident involving property	Trivial	<	Trivial
Any miscellaneous incident	Small	>	Trivial
Any administrative segregation (for any	Moderate	>	Small
reason)	mourate	-	Sinun
Any inmate-in-danger segregation	Small	>	Small
Any security segregation	Small	>	Small
Any disciplinary segregation	Trivial	<	Trivial

Note. Please see Appendix A and F for full details. The '>' symbol indicates that the effect size was larger for sex offenders, whereas the '<' symbol indicates that the effect was larger for non-sexually violent offenders. 'Negative' means that the presence of the risk factor (or higher values) are associated with a reduced likelihood of detention. To interpret effect sizes, an AUC of from.560 to.639 or from .361 to.440 was considered a small effect size, from 640 to.709; or from .291to.369 reflected a moderate effect, and from .710 to1.0; or 0 to.290 reflected a large effect size, AUCs between .441 and .559 were considered trivial in magnitude.

For sex offenders, age had a small negative effect where younger offenders were more likely to be detained. For non-sexually violent offenders there was no notable effect of age. Sentence length had a similar effect for both sex offenders and non-sexually violent offenders, where individuals with longer sentences were more likely to be detained.

When programs were considered, completing any program was associated with less likelihood of being detained for both sex offenders and non-sexually violent offenders, with some variation in the size of these effects. Completing a high intensity program for sex offenders and non-sexually violent offenders had a trivial relationship to the likelihood of detention. However, in relation to offenders completing a moderate intensity program, both sex offenders and non-sexually violent offenders were less likely to be detained, with a consistently moderate effect size. The specific type of program completed was trivially related to detention except for sex offenders completing a sex offender program, where their likelihood of being detained was decreased, with a moderate effect size.

For institutional incidents, having any incident increased the likelihood of being detained for sex offenders but not non-sexually violent offenders, with a moderate effect for sex offenders and a trivial effect for non-sexually violent offenders. All specific types of incidents examined (see Table 1) were also associated with a greater likelihood of detention, but these effects were all trivial or small in magnitude.

Placement in administrative segregation (for any reason) was found to increase the likelihood that a sex offender or non-sexually violent offender would be detained, with a moderate effect for sex offenders and a small effect size for non-sexual violent offenders. Similar effects were found for the two main reasons for administrative segregation placements (the inmate in danger, or the inmate jeopardizing the security of the institution), with small effect sizes. Having any disciplinary segregation was found to have a trivial relationship to detention for both sexual and non-sexually violent offenders.

Table 2 presents the relationship between detention and global intake and pre-release assessments conducted by CSC (note, however, that not all information was re-assessed before release). In all analyses, the pre-release assessments were more strongly related to detention decisions than the intake assessments (from Appendices B and C, the absolute value of the

difference between AUCs ranged between approximately .04 and .10).⁴ The Criminal History Record subcomponent score of the SFA had a stronger relationship with detention for sex offenders (large effect size) than for non-sexually violent offenders (small effect size).

Table 2

Relationship	between	Detention	and Intake	and Pre-	-Release A	Assessments
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	Sex	Offen	ders		Non-Sexual Violent Offenders			
	AUC		AUC Pre-	-	AUC		AUC Pre-	
	Intake		Release		Intake		Release	
Criminal History Record Total	Large			>	Small			
Offence Severity Record	Large			>	Large			
Total								
Sex Offence History	Moderate							
Checklist Total								
Static Factors Assessment Overall Rating	Moderate			<	Large			
Static Factors Assessment sum of all items	Large			>	Large			
DFIA/R Overall Rating	Moderate	<	Large	>	Moderate	<	Moderate	
Reintegration Potential	Large	<	Large	>	Large	<	Large	
Motivation	Small	<	Large	>*	Moderate	<	Large	
Accountability	Small			<	Moderate			

Note. See Appendix B and Appendix C for full details. Within offender type columns (e.g., sex offenders or non-sexual violent offenders), the "<" and ">" symbols indicate whether the effect size was larger for intake or pre-release assessments. In the center of the table, the ">" and "<" symbols denote whether the effect size was larger for sex offenders or non-sexual violent offenders.

To interpret effect sizes, an AUC of from.560 to.639 or from .361 to.440 was considered a small effect size, from 640 to.709; or from .291to.369 reflected a moderate effect, and from .710 to1.0; or 0 to.290 reflected a large effect size, AUCs between .441 and .559 were considered trivial in magnitude.

*The direction of the difference between sex offenders and non-sexual violent offenders changes between intake and pre-release. The directionality shown is for pre-release.

The Offence Severity Record of the SFA, Reintegration Potential Level (at intake and release), and Motivation rating at release all had a large effect size for likelihood of detention for both sex offenders and non-sexually violent offenders. The Sex Offence History Checklist of the SFA was

⁴ In other words, if an AUC at intake was .60, the pre-release AUC might be between .64 and .70.

a moderate predictor for sex offenders. The DFIA/DFIA-R overall rating was a stronger predictor of detention for sex offenders (large effect size) than for non-sexually violent offenders (moderate effect). Overall, the effect sizes were larger for sex offenders than for their non-sexually violent counterparts with the exception of the Static Factor Assessment (overall) and Accountability ratings. Interestingly, for the SFA, the sum of all item scores was consistently a better predictor of detention than the final risk rating generated from professional judgement (see Appendices B and C for more detail).

Table 3

	Sex Offenders				Non-Sexual Violent Offenders			
	AUC		AUC Pre-		AUC		AUC Pre-	
	Intake		Release		Intake		Release	
Original DFIA								
Employment	Small	<	Small	>	Trivial	<	Trivial	
Marriage Family	Trivial	<	Trivial	<	Small	<	Moderate	
Associates	Small	<	Small	>	Trivial	<	Trivial	
Substance Abuse	Small	<	Small	>	Trivial	<	Small	
Community Function	Small	>	Small	>	Trivial	<	Trivial	
Personal Emotional	Small	<	Moderate	<	Moderate	<	Moderate	
Attitudes	Moderate	<	Moderate	>	Small	<	Moderate	
DFIA-R								
Employment	Small	>	Small	>	Small	>	Small	
Marriage Family	Small	<	Small	<	Moderate	>	Moderate	
Associates	Trivial	<	Small	>	Trivial	<	Trivial	
Substance Abuse	Small	<	Small	$>^*$	Small	>	Small	
Community Function	Small	>	Small	>	Small	>	Small	
Personal Emotional	Moderate	<	Large	<	Large	<	Large	
Attitudes	Moderate	<	Moderate	>	Small	<	Moderate	

Relationship between Detention and DFIA/DFIA-R Domains

Note. See Appendix D for full details. Within offender type columns (e.g., sex offenders or non-sexual violent offenders), the "<" and ">" symbols indicate whether the effect size was larger for intake or pre-release assessments. In the center of the table, the ">" and "<" symbols denote whether the effect size was larger for sex offenders or non-sexual violent offenders.

To interpret effect sizes, an AUC of from.560 to.639 or from .361 to.440 was considered a small effect size, from 640 to.709; or from .291to.369 reflected a moderate effect, and from .710 to1.0; or 0 to.290 reflected a large effect size, AUCs between .441 and .559 were considered trivial in magnitude.

*The direction of the difference between sex offenders and non-sexual violent offenders changes between intake and pre-release. The directionality shown is for pre-release.

Table 3 presents the results of the intake and pre-release ratings on the domains of the original and revised DFIA (Appendix D provides more detailed information for these analyses). Overall, the effect sizes for the DFIA were more similar to the DFIA-R at intake than at pre-release. If there was a difference, the DFIA-R domains were a stronger predictor of detention, with the one exception of Associates at intake where the original DFIA domain was a stronger predictor than the DFIA-R. The pre-release assessments were a stronger predictor of detention than the intake assessments, with few exceptions (i.e., for sex offenders: the Community Functioning domain in the original and revised DFIA and Employment domain in the DFIA-R; for non-sexually violent offenders, the intake DFIA-R assessments for Employment, Marital/Family, Substance Abuse, and Community Functioning domains). For all domains, higher levels of need indicated greater likelihood of detention (except for the Associates domain). Generally speaking, all pre-release assessments were better predictors of detention for sex offenders than for non-sexually offenders with the exceptions of Marital/Family and Personal/Emotional for both the DFIA and the DFIA-R, which predicted slightly better for non-sexually violent offenders than for sex offenders.

Lastly, Table 4 provides results for selected items of the DFIA/DFIA-R and the SFA (and Appendix E provides more detailed information for these analyses). Individual items would be expected to elicit smaller effect sizes than more global assessments because they rely on less specific information. The pattern of predictors being stronger for sex offenders than for non-sexually violent offenders for the global measures held for the items as well. The strongest predictor for sex offenders, with a large effect size, was the number of victims from the current offence (from the Offence Severity Record). Interestingly, having negative attitudes towards the criminal justice system or non-conforming attitudes towards society were moderate predictors for sex offenders but small predictors for non-sexually violent offenders, suggesting that attitudes among sex offenders are more strongly linked to detention.

Table 4

Relationship between Dete	tention and Selected Items	of the DFIA/DFIA-R, SFA	, OSR, and SOHC
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Item	Sex Offenders			Non-sexual Violent
				Offenders
	AUC			AUC
Less than grade 10	Trivial		<	Small
Less than high school diploma	Trivial	>		Trivial
Dissatisfaction with job skills	Small	>		Trivial
Unstable job history	Moderate	>		Trivial
Witnessed violence during childhood	Small		<	Small
Family member criminally active in childhood	Small	>		Small
Negative relations with parental figure	Small	>		Small
Intimate relationships have been problematic	Trivial		<	Trivial
Associates with substance abusers	Small	>		Trivial
Many criminal acquaintances	Small	>		Trivial
Many criminal friends	Small	>		Trivial
Affiliated with gang or organized crime	Trivial		<	Trivial
Alcohol or drug use has resulted in law violations	Small	>		Trivial
Unstable accommodations	Small	>		Small
Financial instability	Small	>		Trivial
Problem recognition skills are limited	Small		<	Small
Difficulty solving interpersonal problems	Small	>		Small
Difficulty setting realistic goals	Small	>		Small
Empathy skills are limited	Small		<	Moderate
Frequently acts in aggressive manner	Moderate	>		Moderate
Difficulty coping with stress	Small	>		Trivial
Impulsive	Small	>		Trivial
Low frustration tolerance	Small		<	Small
Engages in thrill seeking behaviour	Small	>		Trivial
Manipulates others to achieve goals	Small		<	Small
Hostile	Small		<	Moderate
Has deviant sexual preferences	Trivial		<	Small
Displays deviant sexual attitudes	Trivial		<	Moderate
Values the substance abusing lifestyle	Small		<	Small
Attitudes support instrumental violence	Moderate	>		Small
Has difficulty setting long term goals	Moderate	>		Small
Displays negative attitudes towards CJS	Moderate	>		Small
Displays negative attitudes towards corrections	Moderate	>		Small
Displays non-conforming attitudes towards society	Moderate	>		Small
Total number of youth convictions	Small	>		Small
Number of current victims	Large	>		Moderate
Length of sentence	Large	>		Small
Number of victims (OSR)	Trivial	>		Trivial
Current sex offence	Trivial	-	-	
Past sex offence	Large	-	-	
Number of victims (SOHC)	Moderate	-	-	

Note: AUCs from.560 to.639 or from .361 to.440 was considered a small effect size, from 640 to.709; or from .291to.369 reflected a moderate effect, and from .710 to1.0; or 0 to.290 reflected a large effect size, AUCs between .441 and .559 were considered trivial in magnitude.

Does Aboriginal Ancestry Predict Detention After Controlling for Risk?

Previous analyses found that Aboriginal offenders were substantially more likely to be detained than non-Aboriginal offenders (Helmus, 2015), but it is possible that this difference was explained by the higher prevalence of risk factors among Aboriginal offenders. After identifying core predictors of detention in the current study, it was possible to explore detention rates of Aboriginal offenders after controlling for key risk factors for detention.

Among non-sexual violent offenders with information on self-reported Aboriginal ancestry (N = 21,234), the odds of being detained were 2.2 times higher for Aboriginal offenders compared to non-Aboriginal offenders. This was without controlling for any other factors. To control for other factors, a logistic regression model was first developed to incorporate the main unique predictors of detention. Specifically focusing on the strongest predictors of detention and the more global assessments of risk, need, and institutional behaviour, the following variables were entered into a logistic regression model: age at admission, sentence length, overall SFA rating (intake), total number of risk factors present in the SFA (at intake), overall DFIA/DFIA-R rating (pre-release), Reintegration Potential Rating (pre-release), motivation level (pre-release), whether the offender had a previous federal sentence, the number of correctional programs completed, the number of correctional program dropped, any institutional incidents, any violent institutional incidents, and any placement in administrative segregation.

The backward elimination technique was used to build a model that best predicted detention from these variables. This method starts by including all predictors in the overall model, and then removes predictors one at a time (starting with the predictors contributing the least to the model) and stops when removing an additional predictor would significantly reduce the accuracy of the model. In other words, it removes variables that are not adding to the predictive accuracy. In this analysis, no variables were removed as they all added unique information in predicting detention. This model had exceptionally high accuracy in predicting detention (AUC = .89). When adding Aboriginal ancestry to this model, being Aboriginal was still significantly related to detention: specifically, the odds of detention were 1.5 times higher for Aboriginal offenders compared to non-Aboriginal (95% CI of 1.28 to 1.70, p < .001). In other words, assuming the same level of risk and institutional behaviour, Aboriginal non-sexual violent offenders were significantly more likely to be detained than non-Aboriginal non-sexual violent

offenders. Summary information for this final model is available in Appendix F.

Among sexual offenders with information on self-reported Aboriginal ancestry (N =5,628), the odds of being detained were 1.7 times higher for Aboriginal offenders compared to non-Aboriginal offenders. This was without controlling for any other factors. The same variables described above (for non-sexual offenders) were entered into a backward elimination logistic regression model, given that the focus was on the strongest and most global predictors, and there were more similarities than differences in identifying what predicted detention. In this analysis, six variables were removed (age at admission, any institutional incident, whether the offender had a previous federal sentence, the number of correctional programs the offender dropped, overall SFA rating at intake, and placement in administrative segregation); all other variables added unique information in predicting detention. This reduced model had exceptionally high accuracy in predicting detention (AUC = .91). When adding Aboriginal ancestry to this model, being Aboriginal was still significantly related to detention, but the effect switched directions: specifically, the odds of detention were approximately one quarter *lower* for Aboriginal offenders compared to non-Aboriginal (odds ratio = 0.77, 95% CI of 0.62 to 0.95, p = .015). In other words, assuming the same level of risk and institutional behaviour, Aboriginal sex offenders were significantly less likely to be detained than non-Aboriginal sex offenders. Summary information for this final model is available in Appendix G. For both offender types (sex offenders and non-sexually violent offenders), exploratory analyses examined other ways of testing whether Aboriginal ancestry was related to detention decisions (e.g., examining different combinations of covariates) and the general pattern of results remained the same.

Summary

Overall, most of the variables examined predicted which offenders were detained. The effect sizes tended to be larger for sex offenders. Pre-release assessments (where applicable) were generally stronger predictors of detention than the corresponding intake assessments. The single greatest predictor of detention was the same for both sex offenders and non-sexually violent offenders: namely the Reintegration Potential Rating at release (AUC of .85 for SO and .81 for NSV). In examining whether the rates of detention for Aboriginal offenders persist after controlling for the primary predictors of detention, results were mixed. For non-sexually violent Aboriginal offenders the odds of detention were higher than for non-Aboriginal offenders when

controlling for relevant risk and institutional behaviour variables, while the result was reversed for Aboriginal versus non-Aboriginal sexual offenders.

Discussion

This study examined the profile of offenders who are detained after their statutory release date. Most factors examined had at least some accuracy in predicting detention for both sexual and non-sexually violent offenders. The best predictor of detention for both offender groups was their Reintegration Potential rating at pre-release: offenders with lower Reintegration Potential were more likely to be detained. This is not surprising given that the Reintegration Potential rating is an amalgamation of three different risk scales (for non-Aboriginal offenders, the CRS, SFA, and SIR-R1; for Aboriginal offenders, the CRS, SFA, and DFIA/R; Motiuk & Nafekh, 2001). It may, therefore, represent the most comprehensive assessment.

Additionally, offenders being detained tended to have lower motivation, higher risk scores, and higher need scores, especially in the Personal/Emotional domain. For sex offenders, those being detained also tended to have had more victims, longer sentences, and convictions for previous sexual offences. Most of the remaining variables had predictive accuracy but were moderate or small in magnitude. Detained offenders were also more likely to have had a previous federal sentence, especially for sex offenders. The only variables which notably decreased likelihood of detention were completion of any correctional program, completing a moderate intensity program, and completing a sex offender program (for sex offenders only). In contrast, completing a high intensity program increased the risk of detention. However, this is likely confounded with risk level. Offenders completing high intensity correctional programs are typically the highest risk, and therefore are the more likely candidates for detention, regardless of program participation.

The reason for the pattern of larger effect sizes for sex offenders than non-sexual violent offenders is not clear. One possible explanation is that it may stem from greater emotional reaction to sex offences and therefore, greater concern on the part of assessors for their level of risk (e.g., Knighton, Murrie, Boccaccini, & Turner, 2014). This is consistent with research by Helmus (2014) that found that SFA scores, especially the Criminal History Record, were more related to sex offenders' returns to custody than to the returns of non-sexual offenders. Given the disproportionate number of sex offenders who are detained (Helmus, 2015), it is also possible that the risk factors for sexual offenders are more familiar to decision makers and therefore used more consistently.

It is promising to note that where an intake and a pre-release assessment was available, the pre-release assessments were stronger predictors, indicating that those making decisions preferred the more recent information. Conceptually, these updated assessments should provide a better representation of the inmate's status, especially if he or she has served a long sentence. One limitation, however, is that there is no research available yet to validate whether CSC's assessments of change are reliably linked to recidivism. Ideally, this research needs to distinguish between meaningful change and measurement error. It also needs to demonstrate that CSC staff are capable of assessing change in a reliable and structured way, and furthermore that change adds incremental information beyond risk level.

Although there is limited (and dated) past research on patterns of detention in CSC, the present study shows some alignment with the earlier literature in the area (Grant, 1996; Johnson, 2001; Nugent, 2000), as well as some differences. For example, the current study found that detained offenders had more violent offence histories, similar to the findings of Grant (1996) and Nugent (2000). Sex offenders with young male victims were more likely to be detained, a result that confirmed earlier research conducted by Johnson (2001).

In contrast to our findings, detained offenders in Grant's study (1996) were older than those released on statutory release. Conversely, our study found that detained sex offenders were younger than non-detained sex offenders, and age was unrelated to detention for non-sexually violent offenders. This finding is more aligned with other research, at least for sex offenders, where age is a robust predictor of recidivism (Hanson & Bussière, 1996). Also, whereas Johnson (2001) found that the number of victims was unrelated to detention among sex offenders, the current study found this factor to be one of the stronger predictors of detention. Overall, Grant (1996) and Nugent (2000) found that on global risk assessments, detained offenders were generally not higher risk than non-detained offenders. Although the current study examined different risk assessment tools, the pattern of findings was surprisingly clear: on virtually all risk factors and risk scales examined, detained offenders were higher risk. The current study clearly indicates that, at least in the last 10 years, detention decisions are more strongly based on the results of assessments of risk and need. Predictors of detention in the current study also tended to overlap considerably with the empirically validated Central Eight risk factors for recidivism defined in the effective corrections literature by Andrews and Bonta (2010).

The current study also found that among non-sexual violent offenders, Aboriginal

offenders are significantly more likely to be detained than non-Aboriginal offenders, even after controlling for key risk factors and institutional behaviour. This finding is not altogether surprising given the concern for the disproportionate representation of Aboriginal offenders in the criminal justice system, including in maximum security institutions (Public Safety Canada, 2015). What is more unique about these analyses is that the disproportionate representation was found even after controlling for key risk factors for detention. This means that the disproportionate detention rates of Aboriginal offenders cannot solely be explained by them scoring as higher risk. Some alternative explanations for the findings were explored. The current dataset combined data across a 10-year period; when examining the most recent five years of data, the disproportionate representation of Aboriginal offenders remained. Additionally, controlling for regional differences (given higher detention rates in the Prairie region) did not alter the general pattern of findings for Aboriginal offenders. Ultimately, the finding of higher rates of detention for Aboriginal offenders persisted with a large dataset and controlling for a large and comprehensive set of potential confounding variables. Given that other key risk factors no longer added to the logistic regression model predicting detention, it seems unlikely that another empirically supported risk factor would explain the higher detention rates among Aboriginal offenders. Consequently, the current results suggest that detention decision-making practices for Aboriginal non-sexually violent offenders are influenced by additional factors other than risk and institutional behaviour.

Potential evidence of bias, however, was not found in the pattern of findings for sex offenders. This analysis revealed that after controlling for key predictors of detention, Aboriginal sex offenders were actually significantly *less* likely to be detained than non-Aboriginal sex offenders. These contradictory findings are puzzling and difficult to interpret. One potential explanation may have to do with differences between Aboriginal and non-Aboriginal sex offenders. Generally, Aboriginal sex offenders are less likely to target child victims and generally display lower levels of sexual deviance compared to non-Aboriginal sex offenders (Babchishin et al., 2012; Ellerby & MacPherson, 2002). Given that detention legislation tends to target sexual offenders against children, this could explain the lower detention rates among Aboriginal sex offenders. Unfortunately, it was not possible to obtain reliable data on child victims or sexual deviance factors in the current dataset to explore this potential explanation for the findings.

Several limitations of the current study should be noted. Firstly, the data on predictors of detention were primarily scored by correctional staff in the course of their regular duties; although this increases the field validity and generalizability of the data, it is difficult to assess the quality of the assessments. To the extent that staff may provide unreliable assessments, this could bias the current results. Another limitation is that the majority of individual items assessed (as opposed to global judgements of risk) were based on assessments at intake (because the specific risk factors of the SFA and DFIA/R are not re-assessed over time). These intake assessments may not be the most accurate reflection of the person at their Statutory Release Date, especially for those serving long sentences. Conversely, however, even if the items were re-assessed, there is currently no validation research to demonstrate that the assessments of change provide meaningful additional information. Consequently, much of the specific information used in the assessments was not updated, nor is there available research to support how this information should be updated over time (if at all). In other words, the current research base to support assessments of change in risk is limited. Another limitation is that the current study examined almost exclusively *validated* risk factors and tools. This is an important focus, but it did not examine the possibility that detention decisions were also influenced by factors unrelated to risk of recidivism, such as abhorrence over offence details, dislike of the inmate, or whether the inmate denied his or her offence or did not demonstrate remorse. Although the current study found that detention decisions appear to be risk-based, there is still some possibility of bias in the decision-making process that was not examined in the current study.

Conclusions

This study found that offenders who were detained had low reintegration potential, low motivation, higher risk scores, and higher need scores. These offenders were less likely to have completed any correctional programs and were more likely to have been placed in administrative segregation or have an institutional incident at least once during their time in the institution. Although accuracy of predictors of detention tended to be higher for sex offenders than non-sexual violent offenders, decisions for both groups were primarily in the same direction, suggesting some similarity with respect to who gets detained. Therefore, the current results suggest that detention decisions appear to be consistent in balancing the risk principle of effective correctional practice (i.e., not investing valuable resources in the lowest risk offenders; Andrews & Bonta, 2010) while limiting undue risk to the community and public safety (i.e., by

detaining high-risk individuals with poor institutional behaviour and poor reintegration potential).

Inmates in CSC are entitled to statutory release. To detain an offender requires that CSC demonstrate why the individual is unfit for gradual reintegration into the community. This study indicates that offenders are being appropriately selected for detention based on the available risk and need assessments. Even though more sex offenders are being detained than non-sexual violent offenders, the decision-making for their detention appears even more strongly rooted in the available risk assessments. Additionally, decision-makers appear to be privileging the most recent assessment information. Future research on the impact of detention on community outcomes (e.g., employment, returns to custody) is recommended.

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			Sex Offenders				Non-Sexual Violent Offenders					
Item	Ν	Not Detained M (SD)	Detained M (SD)	AUC	95% CI	N	Not Detained M (SD)	Detained M (SD)	AUC	95% CI		
Age at Admission	5,653	42.43(13.77)	37.90(11.99)	.407	[.387427]	21,323	32.11(10.16)	32.74(10.42)	.518	[.501534]		
Number of previous federal sentences	5,653	0.21(0.61)	0.72(1.00)	.657	[.639675]	21,323	0.47(0.91)	0.81(1.10)	.598	[.583-612]		
Sentence Length	5,653	3.66(2.22)	5.20(4.04)	.617	[.594639]	21,323	3.90(2.62)	5.35(3.95)	.621	[.604638]		
Number of programs completed	5,653	0.58(0.74)	0.43(0.73)	.436	[.418454]	21,323	0.76(0.82)	0.49(0.78)	.421	[.399443]		
Number of programs dropped	5,653	0.05(0.26)	0.13(0.40)	.534	[0522545]	21,323	0.13(0.40)	0.22(0.52)	.533	[.517550]		
Number of high intensity programs completed	5,653	0.09(0.31)	0.17(0.44)	.536	[.523549]	21,323	0.16(0.40)	0.22(0.47)	.514	[.4965312]		
Number of moderate intensity programs completed	5,653	0.56(0.75)	0.42(0.77)	.435	[.427452]	21,323	0.75(0.86)	0.54(0.94)	.434	[.412457]		
Number of violent programs completed	5,653	0.07(0.26)	0.08(0.29)	.504	[.495514]	21,323	0.24(0.47)	0.21(0.50)	.471	[.454488]		

Appendix A: AUCs and Descriptive Data for Relationship between Detention and Continuous Demographic and Institutional

Behaviour Predictors

	Sex Offenders						Non-Sexual Violent Offenders				
Item	Ν	Not Detained M (SD)	Detained M (SD)	AUC	95% CI	N	Not Detained M (SD)	Detained M (SD)	AUC	95% CI	
Number of living skills programs completed	5,653	0.09(0.34)	0.17(0.50)	.530	[.518542]	21,323	0.24(0.54)	0.25(0.64)	.514	[.497532]	
Number of sex offender programs completed	5,653	0.31(0.49)	0.15(0.45)	.418	[0405-0432]	21,323	0.02(0.17)	0.06(0.28)	.523	[.512533]	
Number of substance abuse programs completed	5,653	0.15(0.38)	0.18(0.41)	.510	[.496523]	21,323	0.35(0.52)	0.22(0.47)	.444	[.426462]	
Any incident (rate)	5,644	0.10(0.25)	0.25(0.39)	.663	[0644682]	21,318	0.35(0.63)	0.57(0.94)	.553	[.529577]	
Any violent incident (rate)	5,644	0.01(0.06)	0.05(0.12)	.606	[.591622]	21,318	0.04(0.10)	0.11(0.19)	.588	[.568609]	
Any incident involving death (rate)	5,644	<0.01(.0.005)	<0.01(0.01)	.507	[.503511]	21,318	<0.01(0.009)	<0.01(0.02)	.508	[.502513]	
Any incident involving assault (rate)	5,644	0.01(0.06)	0.05(0.12)	.603	[.588619]	21,318	0.04(0.10)	0.11(0.19)	.586	[.565607]	
Any incident involving escape or UAL (rate)	5,644	<0.01(0.002)	<0.01(0.005)	.502	[.500504]	21,318	<0.01(0.01)	<0.01(0.01)	.500	[.496505]	

	Sex Offenders							Non-Sexual Violent Offenders					
Item	Ν	Not Detained M (SD)	Detained M (SD)	AUC	95% CI	N	Not Detained M (SD)	Detained M (SD)	AUC	95% CI			
Any incident involving contraband/unauth orized item (rate)	5,644	0.02(0.08)	0.04(0.11)	.573	[.558589]	21,318	0.09(0.20)	0.09(0.16)	.497	[.477-516]			
Any incident involving self injury (rate)	5,644	<0.01(0.3)	<0.01(0.04)	.523	[.515532]	21,318	<0.01(0.07)	0.03(0.20)	.528	[.516-540]			
Any incident involving property (rate)	5,644	<0.01((0.01)	<0.01(0.02)	.516	[.509523]	21,318	<0.01(0.04)	0.02(0.10)	.524	[.511-536]			
Any miscellaneous incident (rate)	5,644	0.04(0.13)	0.06(0.13)	.585	[.568601]	21,318	0.08(0.19)	0.10(0.21)	.557	[.537578]			
Any administrative segregation (for any reason) (rate)	5,644	0.04(0.12)	0.14(0.22)	.667	[.648685]	21,318	0.13(0.23)	0.29(0.34)	.615	[.592638]			
Any inmate-in- danger segregation (rate)	5,644	0.02(0.07)	0.05(0.10)	.601	[.595618]	21,318	0.04(0.10)	0.07(0.12)	.591	[.570612]			
Any security segregation (rate)	5,644	0.02(0.08)	0.08(0.16)	.637	[.620654]	21,318	0.09(0.17)	0.20(0.26)	.602	[.580625]			
Any disciplinary segregation (rate)	5,644	<0.01(0.01)	<0.01(0.02)	.511	[.505517]	21,318	<0.01(0.04)	0.01(0.06)	.519	[.508530]			

Predictor Sex Offenders								xual Violent C	Offender	s
Variables	N	<i>n</i> detained	% detained	AUC	95% CI	N	n detained	% detained	AUC	95% CI
Intake SFA										
Low	508	5	1.0	.703	[.690715]	1,996	12	0.6	.712	[.702721]
Moderate	2.016	86	4.3			8,789	139	1.6	.,	[., 02 ., 21]
High	3,115	741	23.8			10,510	1,156	11.0		
Intake Reintegrat	tion Poten	tial Ratings								
Low	2,527	106	4.2	.757	[.741774]	6,701	87	1.3	.724	[.713735]
Moderate	1,677	214	12.8			6,983	255	3.7		
High	1,434	512	35.7			7,606	965	12.7		
Pre-Release Rein	tegration	Potential Ratio	ng							
Low	1,830	18	1.0	.853	[.841864]	4,943	15	0.3	.810	[.802818]
Moderate	2,306	125	5.4			9,623	146	1.5		
High	1,502	689	45.9			6,724	1,146	17.0		
Intake Motivation	n Rating									
High	882	26	3.0	.637	[.621653]	3,387	48	1.4	.663	[.650676]
Moderate	3,746	528	14.1			14,940	765	5.1		
Low	1,010	278	27.5			2,963	494	16.7		
Pre-Release Mot	ivation Ra	ting								
High	1,587	25	1.6	.731	[.717746]	5,446	25	0.5	.728	[.717740]
Moderate	3,095	451	14.6			12,290	657	5.4		
Low	956	356	37.2			3,554	625	18.0		

Appendix B: AUCs and Descriptive Data for Relationship between Detention and Scores on the Categorical Assessments of Risk, Need, Reintegration Potential, Motivation, and Accountability

Predictor			Sex Offenders				Non-Se	xual Violent (Offender	s
Variables	N	<i>n</i> detained	% detained	AUC	95% CI	N	n detained	% detained	AUC	95% CI
Accountability										
Low	289	3	1.0	.629	[.599659]	1,143	5	0.4	.690	[.668712]
Moderate	1,311	123	9.4			5,141	189	3.7		
High	738	122	16.5			1,648	200	12.1		
DFIA/DFIA-R O	verall at I	ntake								
Low	355	2	0.6	.676	[.665687]	990	3	0.3	.646	[.639654]
Moderate	1,752	63	3.6			6,134	78	1.3		
High	3,532	767	21.7			14,171	1,226	8.6		
DFIA/DFIA-R O	verall at F	Pre-Release								
Low	418	2	0.5	.718	[.707729]	1,110	1	0.1	.688	[.681696]
Moderate	2,073	60	2.9			7,678	80	1.0		
High	3,148	770	24.5			12,507	1,226	9.8		

Note. AUC = Area Under the Curve. SFA = Static Factors Assessment. DFIA = Dynamic Factors Intake Assessment

Appendix C: AUCs and Descriptive Data for Relationship between Detention and Scores on the Continuous Assessments of Criminal History and Risk

Duadiatan			Sex Offenders	5		Non-Sexual Violent Offenders							
Variables	N	Not Detained M (SD)	Detained M (SD)	AUC	95% CI	N	Not Detained M (SD)	Detained M (SD)	AUC	95% CI			
CHR total OSR total SOHC total SFA sum of all items	5,560 5,560 5,556 5,560	9.07(6.02) 15.61(6.90) 8.53(4.14) 33.19(13.27)	15.54(6.43) 23.99(6.61) 11.66(4.47) 51.19(12.53)	.775 .806 .710 .832	[.760791] [.791821] [.689730] [.818847]	20,644 20,644 20,644	15.02(7.29) 18.03(7.54) 34.08(13.31)	18.60(6.88) 25.48(6.52) 48.94(12.80)	.636 .772 .789	[.622651] [.759784] [.776802]			

Note. CHR = Criminal History Record. OSR = Offence Severity Record. SOHC = Sex Offence History Checklist. SFA = Static Factors Assessment.

		S	ex Offend	ers			Non-Sex	ual Violen	t Offen	ders
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	Ν	<i>n</i> detained	% detained	AUC	95% CI
Original DFIA										
Employment intake										
Asset	296	19	6.4	.604	[.583625]	391	14	3.6	.548	[.532565]
No difficulty	1,976	265	13.4		L J	6,042	362	6.0		
Some difficulty	1,629	333	20.4			8,248	558	6.8		
Considerable difficulty	208	73	35.1			1,593	175	11.0		
Marital/family intake										
Asset	68	7	10.3	.539	[.516562]	592	11	1.9	.636	[.620653]
No difficulty	1,527	238	15.6			8,763	412	4.7		
Some difficulty	1,330	202	15.2			4,083	269	6.6		
Considerable difficulty	1,182	243	20.6			2,835	417	14.7		
Associates intake										
Asset	301	12	4.0	.620	[.600640]	261	10	3.8	.486	[.469504]
No difficulty	2,580	358	13.9			4,658	396	8.5		
Some difficulty	977	240	24.6			6,669	358	5.4		
Considerable difficulty	248	80	32.3			4,685	345	7.4		
Substance abuse intake										
No difficulty	1,814	229	12.6	.588	[.566610]	3,662	237	6.5	.512	[.496528]
Some difficulty	965	147	15.2			3,614	234	6.5		
Considerable difficulty	1,332	314	23.6			9,006	638	7.1		

Appendix D: AUCs and Descriptive Data for Relationship Between Detention and DFIA/DFIA-R Domains

		S	ex Offend	ers			Non-Sex	ual Violen	t Offen	ders
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	N	<i>n</i> detained	% detained	AUC	95% CI
Community function intal	ke									
Asset	261	19	7.3	.601	[.582620]	330	14	4.2	.546	[.530561]
No difficulty	3,084	445	14.4			11,335	669	6.2		
Some difficulty	660	176	26.7			3,876	306	7.9		
Considerable difficulty	102	50	49.0			730	90	12.3		
Personal/emotional intake	e									
No difficulty	34	2	5.9	.584	[.576592]	1,683	27	1.6	.654	[.644663]
Some difficulty	616	10	1.6			4,479	75	1.7		
Considerable difficulty	3,466	678	19.6			10,116	1,007	10.0		
Attitudes intake										
Asset	104	8	7.7	.678	[.656699]	256	10	3.9	.619	[.603635]
No difficulty	2,101	207	9.8			5,447	226	4.2		
Some difficulty	1,104	173	15.7			5,242	290	5.5		
Considerable difficulty	800	302	37.8			5,332	583	10.9		
Employment pre-release										
Asset	292	18	6.2	.607	[.587628]	402	13	3.2	.554	[.538570]
No difficulty	2,017	268	13.3			6,061	357	5.9		
Some difficulty	1,617	337	20.8			8,329	570	6.8		
Considerable difficulty	183	67	36.6			1,471	172	11.7		
Marital/family pre-release	e									
Asset	72	7	9.7	.548	[.525571]	592	10	1.7	.642	[.625658]
No difficulty	1,520	239	15.7			8,720	415	4.8		
Some difficulty	1,476	209	14.2			4,481	274	6.1		
Considerable difficulty	1,039	235	22.6			2,471	413	16.7		

		S	ex Offend	ers			Non-Sex	ual Violen	t Offen	ders
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	N	<i>n</i> detained	% detained	AUC	95% CI
Associates pre-release										
Asset	299	11	3.7	.622	[.602642]	268	9	3.4	.497	[.479514]
No difficulty	2,591	359	13.9			4,684	392	8.4		
Some difficulty	981	242	24.7			7,073	370	5.2		
Considerable difficulty	235	78	33.2			4,241	341	8.0		
Substance abuse pre-relea	ase									
No difficulty	1,830	230	12.6	.605	[.582628]	3,648	236	6.5	.545	[.528561]
Some difficulty	1,187	161	13.6			5,224	260	5.0		
Considerable difficulty	1,094	299	27.3			7,406	616	8.3		
Community function pre-	release									
Asset	260	19	7.3	.599	[.580619]	327	15	4.6	.551	[.536566]
No difficulty	3,069	444	14.5			11,274	687	6.1		
Some difficulty	682	179	26.2			3,944	311	7.9		
Considerable difficulty	95	48	50.5			715	99	13.8		
Personal emotional pre-re	elease									
No difficulty	40	2	5.0	.643	[.633653]	1,708	26	1.5	.695	[.684705]
Some difficulty	1,074	20	1.9			5,931	93	1.6		
Considerable difficulty	3,003	668	22.2			8,636	993	11.5		
Attitudes pre-release										
Asset	115	7	6.1	.691	[.669712]	340	8	2.4	.641	[.625657]
No difficulty	2,148	206	9.6		-	5,571	217	3.9		-
Some difficulty	1,130	181	16.0			5,604	304	5.4		
Considerable difficulty	715	296	41.4			4,752	583	12.3		

	S	ex Offend	ers			Non-Sex	ual Violen	t Offen	ders	
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	Ν	<i>n</i> detained	% detained	AUC	95% CI
Revised DFIA										
Employment intake										
Asset	82	4	4.9	.639	[.598680]	79	2	2.5	.570	[.536603]
No immediate need	481	24	5.0			855	26	3.0		
Low need	447	42	9.4			1,199	45	3.8		
Medium need	557	77	13.8			2,628	130	5.0		
High need	96	22	22.9			505	37	7.3		
Marital/family intake										
Asset	24	1	4.2	.539	[.491586]	124	2	1.6	.658	[.622693]
No immediate need	548	61	11.1			2,589	72	2.8		
Low need	177	8	4.5			574	14	2.4		
Medium need	536	42	7.8			1,205	65	5.4		
High need	377	57	15.1			771	87	11.3		
Associates intake										
Asset	55	0	0	.499	[.460538]	27	0	0	.499	[.460538]
No immediate need	1,003	77	7.7			1,193	72	6.0		
Low need	191	22	11.			514	18	3.5		
Medium need	305	46	15.1			2,124	71	3.3		
High need	109	24	22.0			1,408	79	5.6		
Substance abuse intake										
No immediate need	679	49	7.2	.578	[.545611]	1,120	32	2.9	.607	[.562652]
Low need	207	17	8.2		-	641	20	3.1		-
Medium need	349	30	8.6			1,224	55	4.5		
High need	428	73	17.1			2,281	133	5.8		

		S	ex Offend			Non-Sex	ual Violen	t Offen	ders	
Predictor Variables	N	<i>n</i> detained	% detained	AUC	95% CI	N	<i>n</i> detained	% detained	AUC	95% CI
Community function inta	ake									
Asset	72	2	2.8	.600	[.560640]	66	3	4.6	.591	[.555627]
No immediate need	1,198	103	8.6			3,286	115	3.5		
Low need	144	13	9.0			611	24	3.9		
Medium need	183	33	18.0			1,014	69	6.8		
High need	65	18	27.7			286	29	10.1		
Personal emotional intak	te									
No immediate need	16	2	12.5	.640	[.619662]	683	7	1.0	.713	[.691734]
Low need	46	1	2.2			350	0			
Medium need	442	5	1.1			1,707	22	1.3		
High need	1,159	161	13.9			2,524	211	8.4		
Attitudes intake										
Asset	20	1	5.0	.677	[.635720]	24	1	4.2	.633	[.599667]
No immediate need	643	33	5.1			1,113	30	2.7		
Low need	161	11	6.8			445	9	2.0		
Medium need	499	46	9.2			1,901	61	3.2		
High need	340	78	22.9			1,782	139	7.8		
Employment pre-release										
Asset	108	6	5.6	.615	[.576654]	132	4	3.0	.569	[.538599]
No immediate need	673	47	7.0			1,311	57	4.4		
Low need	535	41	7.7			1,688	50	3.0		
Medium need	660	94	14.2			3,318	175	5.3		
High need	104	22	21.2			575	50	8.7		

		S	ex Offend	ers			Non-Sex	ual Violen	t Offen	ders
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	N	<i>n</i> detained	% detained	AUC	95% CI
Marital/family pre-release	se									
Asset	30	1	3.3	.552	[.508595]	164	3	1.8	.649	[.618680]
No immediate need	657	73	11.1			3,452	109	3.2		
Low need	257	10	3.9			845	24	2.8		
Medium need	733	57	7.8			1,708	84	4.9		
High need	403	69	17.1			856	116	13.6		
Associates pre-release										
Asset	64	1	1.6	.616	[.578654]	33	1	3.0	.516	[.482551]
No immediate need	1,274	99	7.8			1,558	100	6.4		
Low need	250	25	10.0			830	23	2.8		
Medium need	376	57	15.2			2,985	99	3.3		
High need	116	28	24.1			1,620	113	7.0		
Substance abuse pre-rele	ase									
No immediate need	860	63	7.3	.618	[.577660]	1,450	51	3.5	.598	[.568629]
Low need	286	23	8.0			977	31	3.2		
Medium need	544	41	7.5			2,250	79	3.5		
High need	390	83	21.3			2,349	175	7.4		
Community function pre	-release									
Asset	86	3	3.5	.598	[.561634]	78	4	5.1	.574	[.543604]
No immediate need	1,504	129	8.6			4,298	170	4.0		
Low need	179	11	6.2			855	30	3.5		
Medium need	232	43	18.5			1,443	91	6.3		
High need	79	24	30.4			351	41	11.7		

		S	ex Offend	ers		Non-Sexual Violent Offenders				
Predictor Variables	Ν	<i>n</i> detained	% detained	AUC	95% CI	N	<i>n</i> detained	% detained	AUC	95% CI
Personal/emotional pre-r	elease									
No immediate need	17	1	5.9	.712	[.691732]	797	8	1.0	.748	[.729767]
Low need	114	0	0			676	0	0		
Medium need	805	14	1.7			2,751	40	1.4		
High need	1,144	195	17.0			2,801	288	10.3		
Attitudes pre-release										
Asset	27	1	3.7	.701	[.663740]	44	0	0	.676	[.647705]
No immediate need	813	40	4.9			1,458	40	2.7		
Low need	287	13	4.5			892	11	1.2		
Medium need	636	68	40.7			2,719	89	3.3		
High need	317	88	27.8			1,914	196	10.2		

		S	Sex Offende	ers			Non-Sex	ual Violen	t Offend	ders
Predictor Variables	Ν	<i>n</i> with outcome	% detained	AUC	95% CI	N	<i>n</i> with outcome	% detained	AUC	95% CI
Less than grade 1	0									
Absent	2,741	337	12.3	.551	[.532569]	9,870	452	4.6	.569	[.555582]
Present	2,632	458	17.4			10,188	792	7.8		
Less than high sci	hool diplo	ma								
Absent	1,512	158	10.4	.549	[.534564]	4,237	174	4.1	.538	[.528548]
Present	3,828	634	16.6			15,785	1,066	6.8		
Dissatisfaction wa	ith job ski	lls								
Absent	3,771	436	11.6	.580	[.562599]	10,513	604	5.8	.517	[.502532]
Present	1,574	332	21.1			9,269	605	6.5		
Unstable job histo	ory									
Absent	2,965	244	8.2	.640	[.622657]	6,170	266	4.3	.550	[.538561]
Present	2,525	564	22.3			14,176	1,001	7.1		
Witnessed violen	ce during	childhood								
Absent	3,622	436	12.0	.565	[.546584]	13,051	626	4.8	.577	[.563592]
Present	1,718	333	19.4			6,631	582	8.8		
Family member c childhood	riminally	active durin	ıg							
Absent	3,974	473	11.9	.580	[.562598]	12,587	633	5.0	.561	[.547576]
Present	1,377	307	22.3		-	7,263	586	8.1		-

Appendix E: Relationship between Detention and DFIA/DFIA-R and SFA Individual Items

		S	Sex Offende	ers			Non-Sex	ual Violen	t Offend	ders
Predictor Variables	N	<i>n</i> with outcome	% detained	AUC	95% CI	Ν	<i>n</i> with outcome	% detained	AUC	95% CI
<u></u>	1.01									
Relations with pa	arental figu	ire were neg	gative durin	g childh	nood					
Absent	3,017	327	10.8	.584	[.566602]	10,540	471	4.5	.578	[.564592]
Present	2,499	483	19.3			9,926	806	8.1		
Intimate relations	ships have	been proble	ematic							
Absent	1,871	284	15.2	.492	[.475510]	9,858	505	5.1	.544	[.530558]
Present	3,618	519	14.3			10,491	754	7.2		
Has been arrested	d for incest	t								
Absent	3,120	596	19.1	.435	[.421449]					
Present	912	80	8.8							
Associates with s	substance a	abusers								
Absent	2,954	285	9.6	.609	[.591627]	3,945	251	6.4	.498	[.486509]
Present	2,532	524	20.7			16,378	1,015	6.2		
Many criminal a	cquaintanc	es								
Absent	3,899	388	10.0	.631	[.612650]	5,473	336	6.1	.500	[.487513]
Present	1,504	392	26.1			14,718	902	6.1		
Many criminal fr	riends									
Absent	4.528	529	11.7	.591	[.574608]	9.814	534	5.4	.529	[.515544]
Present	838	240	28.6			10,051	682	6.8		
Affiliated with	n gang or o crime	organized								
Absent	5.295	729	13.8	.533	[.522544]	16.883	937	5.6	.548	[.536561]
Present	229	79	34.5		[3,260	317	9.7		[

		(ers		Non-Sexual Violent Offenders					
Predictor Variables	N	<i>n</i> with outcome	% detained	AUC	95% CI	Ν	<i>n</i> with outcome	% detained	AUC	95% CI
Alcohol or dru	g use has res	ulted in law	violations							
Absent	2,772	302	10.9	.575	[.557592]	5,884	345	5.9	.506	[.494519]
Present	2,881	530	18.4			15,439	962	6.23		
Unstable accor	mmodations									
Absent	4,257	469	11.0	.611	[.593629]	11,999	584	4.9	.517	[.506527]
Present	1,236	333	26.9			8,275	672	8.1		
Financial insta	bility									
Absent	1,999	175	8.8	.587	[.571603]	3,923	205	5.2	.568	[.553582]
Present	3,507	639	18.2			16,512	1,070	6.5		
Problems reco	gnising skills	are								
Absent	1,763	173	9.8	.563	[.547578]	8,450	275	3.2	.605	[.594617]
Present	3,768	644	17.1			12,061	1,007	8.4		
Difficulty solv	ing interpers	onal proble	ms							
Absent	1,427	101	7.1	.579	[.566592]	4,531	101	2.2	.576	[.568584]
Present	4,085	714	17.5			15,918	1,183	7.4		
Difficulty setti	ng realistic g	oals								
Absent	4.233	489	11.6	.597	[.579615]	14.080	731	5.2	.562	[.548576]
Present	1,251	317	25.3		[]	6,231	534	8.6		[]
Empathy skills	s are limited									
Absent	2,180	192	8.8	.595	[.5784611]	11.514	376	3.3	.644	[.631658]
Present	3,266	612	18.7			8,717	885	10.2		

	Sex Offenders						Non-Sexual Violent Offenders			
Predictor Variables	N	<i>n</i> with outcome	% detained	AUC	95% CI	N	<i>n</i> with outcome	% detained	AUC	95% CI
Frequently acts i	n aggressiv	ve manner								
Absent	3.292	247	7.5	.675	[.657692]	8.580	153	1.8	.661	[.651670]
Present	2,192	568	25.9		[]	11,808	1,131	9.6		[]
Difficulty coping	g with stres	S								
Absent	1,934	185	9.6	.574	[.558590]	5,414	228	4.2	.546	[.535557]
Present	3,491	619	17.7			14,883	1,038	6.8		
Impulsive										
Absent	1,438	65	4.5	.606	[.595617]	2,768	49	1.8	.552	[.546557]
Present	4,092	755	18.4			17,779	1,236	7.0		
Low frustration t	tolerance									
Absent	3,346	306	9.2	.636	[.618655]	9,178	249	2.7	.638	[.626649]
Present	2,068	488	23.6			10,968	1,012	9.		
Engages in thrill	seeking be	ehaviour								
Absent	4,064	485	11.9	.580	[.562598]	12,374	683	5.5	.537	[.523551]
Present	1,396	313	22.4			7,770	571	7.4		
Manipulates othe	ers to achie	ve goals								
Absent	2,101	218	10.4	.567	[.550584]	10,512	446	4.2	.5921	[.578606]
Present	3,353	587	17.5			9,463	815	8.6		
Hostile										
Absent	4,198	472	11.2	.608	[.590626]	13,920	523	3.8	.646	[.632660]
Present	1,279	339	26.5			6,407	749	11.7		

		S	ers		Non-Sexual Violent Offenders					
Predictor Variables	Ν	<i>n</i> with outcome	% detained	AUC	95% CI	Ν	<i>n</i> with outcome	% detained	AUC	95% CI
Has deviant sexu	al preferer	nces								
Absent	1,567	195	12.4	.527	[.510543]	18,464	850	4.6	.615	[.602628]
Present	3,733	584	15.6			1,437	345	24.0		
Displays deviant	sexual atti	itudes								
Absent	1,007	68	6.8	.559	[.548570]	17,650	698	4.0	.668	[.654682]
Present	4,440	742	16.7			2,322	530	22.8		
Values the substa	ance abusii	ng lifestyle								
Absent	3,265	351	10.8	.594	[.576612]	7,733	437	5.6	.519	[.505532]
Present	2,229	458	20.6			12,588	828	6.6		
Attitudes suppor violence	t instrumer	ntal								
Absent	3,568	330	9.2	.644	[.625662]	7,989	264	3.3	.599	[.587611]
Present	1,923	484	25.2		-	12,341	1,008	8.2		
Has difficulty se	tting long t	erm goals								
Absent	3,105	231	7.4	.664	[.647681]	7,417	248	3.3	.590	[.579601]
Present	2,414	586	24.3			13,088	1,036	7.9		
Displays negat	ive attitude CJS	es towards								
Absent	2,852	220	7.7	.644	[.627660]	6,748	234	3.5	.578	[.567589]
Present	2,693	597	22.2			13,813	1,048	7.6		_ *

	Sex Offenders						Non-Sexual Violent Offenders			
Predictor	λī	<i>n</i> with	%		05% CI	λ/	<i>n</i> with	%		05% CI
Variables	11	outcome	detained	AUC	95% CI	11	outcome	detained	AUC	93% CI
Displays negative	attitudes	towards con	rrections							
Absent	3,848	313	8.1	.684	[.666702]	10,579	363	3.4	.624	[.611636]
Present	1,683	505	30.0			9,944	917	9.2		
Displays non-con	forming a	ttitudes tow	ards society	У						
Absent	3,355	274	8.2	.655	[.638672]	9,852	345	3.5	.606	[.593618]
Present	2,293	557	24.3			11,460	962	8.4		
Women/men role	s are uneq	ual								
Absent	2,727	345	12.6	.603	[.582624]					
Present	1,103	293	26.6							
Total number of y	outh conv	victions								
0	4,190	456	10.9	.618	[.599637]	9,935	467	4.7	.581	[.565598]
1	319	54	16.9			1,726	88	5.1		
2-4	456	424	27.2			3,116	210	6.7		
5-9	243	64	26.3			2,310	162	7.0		
10-14	110	41	37.3			1,293	121	9.4		
15+	136	49	36.0			1,782	184	10.3		
Any previous fe	deral sente	ence								
Absent	4,582	456	10.0	.654	[.636672]	14,989	690	4.6	.593	[.579607]
Present	1,071	376	35.1			6,334	617	9.7		
Total number of p	bast victim	18								
0	2,615	104	4.0	.762	[.746779]	6,769	141	2.1	.663	[.651676]
1	829	91	11.0			2,959	129	4.4		
2	546	108	19.8			2,121	148	7.0		
3+	1,496	508	34.0			8,455	853	10.1		

		S	Sex Offende	ers		Non-Sexual Violent Offenders				
Predictor Variables	Ν	<i>n</i> with outcome	% detained	AUC	95% CI	Ν	<i>n</i> with outcome	% detained	AUC	95% CI
Number of victim	s for curr	ent offence								
0	159	13	8.2	.545	[.526564]	2.969	41	1.4	.535	[.522549]
1	3.173	425	13.4	10 10		8.300	633	7.6	1000	
2	1.053	171	16.2			3,790	291	7.7		
3+	1,169	211	18.0			5,538	321	5.8		
Current sex offen	ce									
Absent	550	48	8.7	.524	[.515533]					
Present	5,005	775	15.5							
Past sex offence										
Absent	3,888	272	7.0	.717	[.700734]					
Present	1,654	548	33.1							
Number of sex of	fence vict	ims								
0	581	41	7.1	.687	[.668706]					
1	2,445	179	7.3		L J					
2	1,026	174	15.0							
3+	1,484	425	28.6							
Victim was Fema	le under 1	2								
Absent	3,545	525	14.8	.498	[.481516]					
Present	1,966	288	14.6		L					
Victim was Fema	le 12-17 v	vears								
Absent	3.252	483	14.8	.498	[.479516]					
Present	2,240	327	14.6	,0	[,					

	Sex Offenders						Non-Sexual Violent Offenders				
Predictor Variables	N	<i>n</i> with outcome	% detained	AUC	95% CI	Ν	<i>n</i> with outcome	% detained	AUC	95% CI	
Victim was Adu	t Female										
Absent	3.572	391	11.0	.598	[.579616]						
Present	1,942	422	21.7								
Victim was Elder	ly Female										
Absent	5,450	790	14.5	.512	[.505518]						
Present	68	26	38.2								
Victim was Male	under 12										
Absent	4,885	672	13.8	.537	[.523550]						
Present	628	144	22.9								
Victim was Male	12-17 yea	rs									
Absent	5,035	718	14.3	.520	[.509532]						
Present	475	99	20.8								
Victim was Adult	Male										
Absent	5,444	790	14.5	.512	[.506519]						
Present	87	30	34.5								
Victim was Elder	ly Male										
Absent	5,527	818	14.8	.501	[.499502]						
Present	6	2	33.3								
Current sex offen	ce resulted	l in death o	r serious ha	rm							
Absent	1,523	183	12.0	.531	[.515547]						
Present	3,985	635	15.9								

Predictor	Odds Ratio	95%	6 CI	р
Age at admission	1.02	1.01	1.03	<.001
Sentence length (years)	1.16	1.13	1.18	<.001
SFA overall rating (intake)	1.36	1.12	1.65	.002
DFIA overall rating (pre-release)	1.89	1.47	2.44	<.001
Reintegration Potential (pre-release)	3.67	3.03	4.45	<.001
Motivation rating (pre-release)	2.14	1.89	2.42	<.001
SFA sum of all items	1.06	1.05	1.07	<.001
Past federal sentence (no/yes)	0.54	0.46	0.62	<.001
Number of programs completed?	0.64	0.55	0.73	<.001
Number of programs dropped?	0.70	0.59	0.75	<.001
Any institutional incident (rate)?	0.83	0.75	0.92	<.001
Any violent institutional incident (rate)?	4.20	2.61	6.75	<.001
Any administrative segregation (rate)	1.33	1.03	1.72	.028
Aboriginal (no/yes)	1.48	1.28	1.70	<.001

Appendix F: Final Logistic Regression Model Predicting Detention Decisions for Non-Sexual Violent Offenders

Note. Sample size available for these analyses (i.e., cases with non-missing data on all predictor variables) was 20,563. The AUC for the overall model in predicting detention decisions was .89.

Predictor	Odds Ratio	95%	5 CI	р
Sentence length (years)	1.15	1.10	1.19	<.001
DFIA overall rating (pre-release)	1.91	1.41	2.59	<.001
Reintegration Potential (pre-release)	4.48	3.62	5.54	<.001
Motivation rating (pre-release)	2.15	1.80	2.56	<.001
SFA sum of all items	1.06	1.05	1.07	<.001
Number of programs completed?	0.66	0.54	0.81	<.001
Any violent institutional incident	3.80	1.49	9.72	.005
(rate)?				
Aboriginal (no/yes)	0.77	0.62	0.95	.015

Appendix G: Final Logistic Regression Model Predicting Detention Decisions for Sexual Offenders

Note. Sample size available for these analyses (i.e., cases with non-missing data on all predictor variables) was 5,538. The AUC for the overall model in predicting detention decisions was .91.