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Revalidation of the Custody Rating Scale for Aboriginal and non-Aboriginal Women Offenders

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Revalidation of the Custody Rating Scale for Aboriginal and non-Aboriginal Women Offenders

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Executive Summary

Key words: *Custody Rating Scale, security classification, women offenders, Aboriginal offenders*

The CRS is an actuarial measure that consists of twelve items divided into subscales measuring institutional adjustment and security risk. Based on file information, staff complete the CRS producing a recommended security classification for each offender. The CRS recommendation is taken together with the professional judgment of staff to determine the appropriate initial security classification for each offender.

The last revalidation of the CRS was over eight years ago and the women offender population has continued to change in this time period. Therefore, a revalidation of the CRS focusing on Aboriginal and non-Aboriginal offenders was considered timely. The CRS revalidation focused on all CRSs (N = 628) completed for women offenders between January 1, 2008 and December 31, 2009.

Results demonstrated that the CRS, when considered in conjunction with staff's professional judgment, led to security classification decisions reflective of Aboriginal and non-Aboriginal women offenders' risk and institutional adjustment. Overall, the analyses indicated that for both groups CRS classifications were associated in the expected directions with offenders' risk, need, motivation, and reintegration potential. In general, offenders' CRS classifications were predictive of the more serious indicators of institutional adjustment: involvement in major institutional incidents and conviction of serious institutional charges. Offenders' CRS classifications were also predictive of discretionary release and return to custody with a new offence.

In general, these outcomes were better predicted by offenders' final security placement (based on both the CRS recommendation and staffs' professional judgment) than by the CRS alone. Though, as is the case with all actuarial measures, there continues to be room for improvement in the CRS, the results of the current study support the continued use of the CRS as a component of the initial security classification process for Aboriginal and non-Aboriginal women offenders.

Recent research has suggested the predictive ability of the CRS could be improved by incorporating measures of women offenders' needs. A preliminary analysis indicated that, at least for non-Aboriginal offenders, inclusion of level of need may be an area worthy of further attention.

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Introduction

Classification of offenders for security purposes is one of the most important decisions correctional organizations undertake (e.g., McConville, Morris, & Rothman, 1995). The decision to classify an offender to minimum, medium, or maximum security affects their access to the community, programming options, and freedom of movement within the institution (Blanchette & Motiuk, 2004; Bonta & Motiuk, 1992). The Corrections and Conditional Release Act (CCRA, 1992) stipulates that all federal offenders in Canada must be assigned a security classification of minimum, medium, or maximum. The classification must reflect the offender's institutional adjustment, escape risk, and risk to the public in the event of escape. Furthermore, the CCRA (1992) stipulates that the CSC must ensure that federal offenders are not placed in an environment more restrictive than appropriate, while simultaneously ensuring the protection of the public, staff, and other offenders.

In Canada, the initial classification of all federal offenders is completed by a parole officer or primary worker (Correctional Service of Canada [CSC], 2010). The security classification decision is based on the results of the Custody Rating Scale (CRS), an actuarial instrument intended to assess security risk and institutional adjustment, and takes into consideration clinical judgement, and, when required, psychological assessment. However, the CRS was developed with male offenders as they constitute the majority of Canada's offender population (Luciani, Motiuk, & Nafekh, 1996; Public Safety Canada, 2010). Since the implementation of the CRS, there have been criticisms of its use with Aboriginal and non-Aboriginal women (Webster & Doob, 2004a; 2004b), despite the positive results of validation studies conducted with these groups (Blanchette & Motiuk, 2004; Blanchette, Verbrugge, & Wichmann, 2002; Luciani et al., 1996). As such, the goal of this report is to examine the issues that surround the application of the CRS to Aboriginal and non-Aboriginal women and to examine whether it continues to be valid for these two populations.

Offender Classification

Structured and clinical classification

Methods of classification can be broadly divided into two categories: actuarial or structured and clinical. Essentially, actuarial measures are statistically-based and rely on

observable information (Grove, Zald, Lebow, Snitz, & Nelson, 2000). Actuarial and structured measures comprise items that can be scored to provide an indication of the associated risk. Once a measure is completed a final score results in a classification category. In contrast, clinical classification involves a professional collecting information and using his or her own knowledge and experience to classify the individual (Rice, 1997).

Due to their unstructured nature, clinical classification procedures have been criticized as subjective and difficult to replicate across observers (e.g., Grove et al., 2000; Rice, 1997). On the other hand, due to their objective nature, structured tools are easily replicable, easy to implement, and efficient (for a review see Grove et al., 2000). In security classification research, structured measures have been found to be highly consistent across observers and to result in lower classifications than those suggested by clinical procedures (Austin & Hardyman, 2004; Brennan, 1987; Buchanan, Whitlow, & Austin, 1986).

Given the advantages associated with the use of structured instruments in security classification, CSC has implemented the Custody Rating Scale, a structured measure, to help determine the initial security classification of all new federal offenders. As the CRS was originally developed with male offenders (Luciani et al., 1996), government agencies (e.g., Auditor General of Canada, 2003; Canadian Human Rights Commission, 2003), stakeholders (e.g., Canadian Association of Elizabeth Fry Societies, 2004), and academics (e.g., Hardyman & Van Voorhis, 2004; Webster & Doob, 2004a) have raised concerns about the use of the CRS with Aboriginal and non-Aboriginal women offenders.

Classification of Women Offenders

Hardyman and Van Voorhis (2004) completed an evaluation of classification practices for women offenders in the United States and identified three possible issues: validity, over-classification, and extent to which instruments are gender-informed.

Validity

Any measure that classifies individuals according to their security risk must have predictive validity (Kane, 1986), meaning that scores on the measure are associated with the behaviour that the measure attempts to predict. When validation studies have not been conducted, the extent to which a measure can predict the outcome of interest is unclear. For this reason, the use of actuarial or structured measures on correctional populations for which they have not been validated may be problematic (e.g., American Association for Correctional

Psychology, 2000; American Psychological Association, 2002). In Canada, although the CRS was not originally developed with women offenders, several studies have demonstrated its predictive validity with this group. In the first validation of the CRS, the scale was found to predict involvement in institutional incidents in a small sample of non-Aboriginal women (Luciani et al., 1996). Blanchette and colleagues (2002) also found that overall the CRS did predict institutional incidents in the expected direction. However, these studies have been criticized as reaching overly positive conclusions based on their results (Webster & Doob, 2004a; 2004b).

Moreover, other researchers have also contended that some of the factors that predict institutional incidents may differ by an offenders' gender (Hannah-Moffat & Shaw, 2001; Hardyman & Van Voorhis, 2004). It has been argued that unless these differences are taken into account, the predictive validity of security classification measures may be impacted (e.g., Hardyman & Van Voorhis, 2004; Webster & Doob, 2004a).

In Canada (Porporino, Luciani, Motiuk, Johnston, & Mainwaring, 1989) and the United States (Hardyman & Van Voorhis, 2004), security classification scales were originally developed and validated on male offenders. In the United States Hardyman and Van Voorhis (2004) found that the majority of correctional systems had not validated their security classification measures with women offenders. Furthermore, the validation studies that had been completed had insufficient sample sizes to conduct a thorough validation. In contrast, following the implementation of the CRS, two reports (Blanchette et al., 2002; Luciani et al., 1996) have indicated that although the CRS was developed with male offenders it has predictive validity for Aboriginal and non-Aboriginal women offenders.

Another indicator of the validity of a security classification tool is how often caseworkers adjust the rating of the classification measure to a classification that they feel is more appropriate (Brennan & Austin, 1997). In Canada, as in most jurisdictions, when a caseworker's professional judgment on a security classification is inconsistent with the recommendation provided by the actuarial measure, they need not assign the classification produced by the measure (CSC, 2010). Brennan and Austin (1997) recommended that a good classification measure should not require more than 20% of cases to be adjusted. Some research in the U.S. has indicated that, relative to their male counterparts, a greater proportion of women offenders' security classifications are adjusted (Brennan, 1998; Van Voorhis & Presser, 2001). However, research in Canada has

indicated that rates of inconsistency between CRS recommendations and actual classification for women offenders are within the appropriate range (19% for Aboriginal offenders and 14% for non-Aboriginal offenders; Blanchette et al., 2002) and similar to those for Aboriginal (22%) and non-Aboriginal (26%) male offenders (Grant & Luciani, 1998).

Over-classification

Over-classification is another possible issue in women's security classification. Essentially, some researchers have argued that when a security classification measure validated for men is used on women offenders, the measure may produce a higher security classification than is warranted by the women's risk (e.g., Austin, Chan, & Elms, 1993; Van Voorhis, Salisbury, Wright, & Bauman, 2008), which may influence access to programs, interventions, and opportunities. Moreover, over-classification is inconsistent with the requirement that offenders not be placed in an environment more restrictive than appropriate (CCRA, 1992).

That said, CRS revalidations focused on Aboriginal and non-Aboriginal women (Blanchette et al., 2002; Luciani et al., 1996) conducted to date have shown that the CRS is predictive of involvement in institutional misconducts for these groups. Involvement in both violent and non-violent incidents was shown to increase linearly with CRS classification, suggesting that the women are appropriately classified.

Note, other researchers have used the percentage of cases where an actuarial measure of risk recommendation is inconsistent with actual classification as an index of over-classification (e.g., Van Voorhis & Presser, 2001). This is not appropriate when the classification process explicitly allows for final security classification decisions that are different than the scale's recommended classification. Over-classification can only be demonstrated when actual security classification is higher than that required by a woman's risk.

Gender-informed classification

Gender-informed classification, in general, refers to a classification measure that is reflective of gender differences (Blanchette & Brown, 2006; Brennan, 2008). Concerns have been expressed with respect to whether, when the same measures are used for both men and women, some items or the weighting of items may be inappropriate for women (e.g., Brennan, 1998; Canadian Association of Elizabeth Fry Societies, 2004; Canadian Human Rights Commission, 2003; Webster & Doob, 2004a). Indeed, one researcher found that a gender-informed security reclassification scale resulted in recommended security classifications that

were more predictive of involvement in institutional misbehaviour among women offenders than were those derived from a scale developed for men (Blanchette, 2005).

Classification of Aboriginal Women Offenders

The concerns with respect to classification of women offenders are compounded when the offender is a member of a minority, such as Aboriginal women offenders (e.g., Jackson, 1999; Monture-Angus, 2000). That said, Blanchette and colleagues (2002) found that the CRS was valid for Aboriginal women offenders. In addition, the overall classification approach for Aboriginal women of which the CRS is a part, is reflective of their unique social history. In keeping with the Gladue decision (*R.* v. *Gladue,* 1999), when caseworkers are completing an Aboriginal women offenders' security classification, policy requires that they must consider unique background and systemic factors that affect Aboriginal offenders as part of their professional judgment (CSC, 2010). For example the caseworker must consider history of dislocation, unemployment due to lack of opportunities, lack or irrelevance of education, and history of substance abuse.

Over-representation or over-classification?

The difficulties that Aboriginal women offenders face are reflected by their over-representation in the justice system. First, Aboriginal women represent only 3% of Canadian women yet represent almost a quarter of all women offenders under the jurisdiction of CSC (Public Safety Canada, 2010). Second, a larger proportion of Aboriginal women offenders are represented at higher security ratings than non-Aboriginal women offenders (Blanchette et al., 2002). Finally, a greater proportion of Aboriginal women offenders are serving sentences for violent crimes (e.g., homicide and assault) than non-Aboriginal women (Public Safety Canada, 2010). That acknowledged, it is crucial to distinguish between over-classification and over-representation of Aboriginal women offenders. As reviewed in Gobeil (2008) over-representation refers to the situation where a greater proportion of one population (e.g., Aboriginal women offenders) than of other populations (e.g., non-Aboriginal women offenders) is classified to higher security levels. In contrast, over-classification occurs when Aboriginal women offenders are placed at higher security levels than is necessary based on the CCRA (1992) criteria described earlier.

Researchers have been divided on whether Aboriginal women offenders are over-classified or over-represented (Jackson, 1999; Monture-Angus, 2000). Unfortunately, most of the

research conducted in this area has focused solely or primarily on male offenders, and as such, the applicability of findings to women is unknown. Nonetheless, it is clear that many factors associated with involvement in institutional incidents are more prevalent in Aboriginal offenders (see Rugge, 2006 for a review of this issue). First, Aboriginal offenders tend to be younger (Kong & AuCoin, 2008; Trevethan, Moore, & Rastin, 2002), have higher recidivism rates (Bonta, Rugge, & Dauvergne, 2003; Gobeil & Barrett, 2007), more issues with substance abuse (Perreault, 2009), and have more needs concerning their family lives (Gobeil & Barrett, 2007; Kong & AuCoin, 2008; Perreault, 2009) relative to non-Aboriginal offenders. These issues are further compounded by the fact that Aboriginal offenders tend to have less education (Perreault, 2009; Trevethan et al., 2002), less employment experience (Perreault, 2009), and fewer employment skills (Trevethan et al., 2002) than non-Aboriginal offenders. These factors have all been found to be associated with risk, though much of the relevant research focused on non-Aboriginal offenders (e.g., Andrews & Bonta, 2010; Blanchette et al., 2002; Harer & Langan, 2001; Lowenkamp, Holsinger, & Latessa, 2001), and a number of these are included on the CRS. The current study will assist in differentiating between over-classification and over-representation of Aboriginal women offenders with respect to initial security classification.

Other Factors That May Predict Institutional Behaviour

The literature on factors that predict institutional misbehaviour has continued to grow since the CRS was implemented. For example, in a review of the literature, Farr (2000) concluded that women offenders should be classified based on their criminogenic need rather than the static risk factors traditionally used to predict institutional misbehaviour and reflected in the CRS. In the United States, Hardyman and Van Voorhis (2004) concluded that including a women offender's needs could greatly inform the process of initial security classification. Similarly, Blanchette and Brown (2006) noted in their review of classification practices in Canada and the United States that inclusion of criminogenic needs could improve the classification of women offenders.

Other researchers (e.g., Brennan, 2008; Wright, Salisbury, & Van Voorhis, 2007), government agencies (e.g., Auditor General of Canada, 2003; Canadian Human Rights Commission, 2003), and stakeholders (e.g., Canadian Association of Elizabeth Fry Societies, 2004) have criticized actuarial security classification instruments, in general, for not considering variables, such as gang membership (Mackenzie & Johnson, 2003) that have recently been

shown to be predictive of institutional adjustment. A preliminary examination of the predictive ability of such factors was included in the current study.

The Present Study

The current study was designed to address three areas. First, the validity of the CRS was examined. Second, the validity of the CRS when used on Aboriginal women offenders was explored. Finally, the usefulness of inclusion of other variables in the CRS when used with Aboriginal and non-Aboriginal offenders was investigated.

To examine these issues several types of analyses were undertaken. First, the concordance rate of CRS classifications with staff member's final security decisions was examined. Second, the construct validity of the CRS was evaluated by examining the associations between CRS classifications and relevant domains such as substance abuse. Third, the predictive validity of the CRS was evaluated through an examination of the relationships between CRS classification and relevant offender behaviour and decisions. Fourth, throughout these analyses the results were contrasted with offender's actual security classification. Fifth, to address issues concerning a lack of validity of the CRS for Aboriginal women offender's results for this group of offenders were contrasted with non-Aboriginal offenders. Finally, a preliminary analysis of the predictive ability of other relevant measures was conducted.

Method

Sample

The study included the 684 CRSs completed with women offenders between January 1, 2008 and December 31, 2009. As some offenders were admitted on more than one occasion during this time period, a subset of offenders had multiple CRSs on file. Therefore, the 684 CRSs are from 628 individual women offenders. Based on the goals of the current research, women offenders were classified as either Aboriginal (n = 157; 25%) or non-Aboriginal (n = 471; 75%). A woman offender was classified as Aboriginal if she identified herself as being First Nations, Métis, or Inuit. All other offenders, including those who did not report their ethnicity (n = 5; 0.7%) were categorized as non-Aboriginal offenders.

The data used in the current study included all offenders and CRSs completed by women offenders during the study period. Therefore, the data in the current study represents the population of women offenders. As it is inappropriate to discuss the results of a study with population data in terms of *statistical* significance the results are interpreted for their *practical* significance.

Data

Data for each offender were obtained from the Offender Management System, CSC's computerized database of offender information. First, data that pertained to women offenders' CRSs were drawn; including CRS item scores, subscale totals, CRS recommendation, and actual classification decision. Second, data were retrieved on women offenders' demographic characteristics (e.g., age), risk, need, motivation, and reintegration potential. Third, information was drawn on women offenders' behaviour and decisions concerning their case. Specifically, each offender's involvement in institutional incidents, institutional charges, escapes, and escape-related behaviour was retrieved. In addition, discretionary release decisions and the offenders' post-release outcomes were analyzed. Finally, offenders' levels of need for each of the seven Dynamic Factor Identification and Analysis (DFIA) domains, as well as the DFIA gang affiliation indicator, were retrieved for exploratory analysis.

Measures

The CRS is an actuarial tool used by the CSC as part of the initial security classification of offenders as either minimum, medium, or maximum security (CSC, 2010). The CRS consists of twelve items comprising two subscales: institutional adjustment (5 items) and security risk (7 items). The items in the institutional adjustment subscale reflect factors that are designed to predict an offender's risk of committing institutional incidents and her ability to adjust to life in the institution (Luciani et al., 1996). In contrast, the security risk subscale provides an index of the danger that an offender would pose to the public (in a situation where she escaped or did not return from a temporary absence).

Based on file information a parole officer or primary worker assigns a rating to each item on the CRS (CSC, 2010). The items are weighted in terms of their contribution to risk and a score is produced for each subscale. The greater the score the greater risk that the offender poses. Scores that fall within certain ranges (CSC, 2010) on each subscale correspond to specific recommended security classifications. If the two subscales produce different security classification recommendations, the one corresponding to the higher classification supersedes the other.

Actual security classification refers to the offender's final security classification which is based on the evaluation of the offender's security risk by a parole officer or primary worker (CSC, 2010). The CRS is only one component of the security risk classification process and the parole officer or primary worker bases his or her final classification recommendation to the Institutional Head on his or her clinical appraisal, psychological assessments (when necessary), and the results of the CRS.[1]

The Offender Intake Assessment is completed for each offender (CSC, 2007a; 2007b). From this assessment, each offender's risk, need, motivation, and reintegration potential were accessed for the current study. Offenders are assessed as low, moderate, or high for each measure based on specific items. First, risk to reoffend is rated by a staff member and reflects an offender's static criminal risk factors relating to criminal history, offence severity, and sex offence history. Second, need refers to the staff member's professional judgment of an offender's dynamic needs in seven domains: marital/family, associates/social interactions, attitudes,

[1] For Aboriginal women offenders, a staff member must take into consideration systemic historical factors into his or her judgment of Aboriginal women offenders' risk during the security evaluation (CSC, 2010).

substance abuse, community functioning, employment, and personal/emotional orientation.[2] Third, motivation refers to a staff member's professional judgment of an offender's willingness to address her needs by completing the programs and interventions that are identified as useful in her correctional plan. Finally, reintegration potential reflects an offender's probability of successfully returning to the community as a law-abiding citizen. Reintegration potential is automatically calculated by the Offender Management System based on information gathered during the Offender Intake Assessment. In exceptional cases, reintegration potential can be adjusted if, in the professional judgment of a staff member, the value calculated by the Offender Management System is not accurate (CSC, 2007a). Reintegration potential for Aboriginal and non-Aboriginal women offenders is based on scores from the CRS, risk, and need.

The predictive validity of the CRS was examined using several indices of an offender's behaviour. First, occurrence of institutional incidents and institutional charges were both included in the current study.[3] Institutional incidents were categorized as major or minor. Major institutional incidents include, but were not limited to: murder, sexual assaults, possession and transportation of contraband. In contrast, minor institutional incidents included, but were not limited to: damage to government property, possession of unauthorized items, disciplinary problems, and being under the influence. Institutional charges were classified as either minor or serious based on the severity of the offence committed rather than the nature of the behaviour that precipitated the charges. Only cases where the offender was convicted on an institutional charge were considered in the current analysis. Second, whether an offender was granted discretionary release (i.e., day or full parole) was examined. Finally, an offender's post-release outcome – in terms of whether she returned to custody with or without a new offence – during the follow-up period was examined. In summary, the occurrence of institutional incidents, conviction of institutional charges, discretionary release decisions, and post-release outcome were all used to investigate the predictive validity of the CRS.

The DFIA is a component of the Offender Intake Assessment used to develop an

[2] An offender's risk is based on static and dynamic factors. Static factors are unchangeable and historical in nature, such as previous offences. In contrast, dynamic risk or need is based on factors that can change. For example, an offender who has a substance use problem can change through participation in a substance abuse program. Several offenders in the current study were assessed on these factors more than once during the study time frame. However, the offender's needs that were assessed to the time closest to when the CRS was completed were analyzed.

[3] Although institutional incidents and institutional charges are related to each other they were both included in the current study. This decision was based on the fact that both measures provide a more detailed analysis of the predictive ability of the CRS than either measure in isolation.

offender's correctional plan (CSC, 2007a). The DFIA is designed to assess an offender's strengths and weaknesses in terms of seven domains. The seven domains an offender is evaluated on are: employment, marital / family, associates / social interactions, substance abuse, community functioning, personal / emotional orientation, and attitude. Each of these domains is evaluated by the use of 'yes or no' indicators that the staff member completes based on information in the offender's file. After all indicators have been completed the staff member classifies an offender into one of four categories of need on each of the seven domains. The categories are ordinal in nature and range from the factor being deemed an asset to community functioning to a considerable need for improvement in the specific domain.

Analyses

A series of analyses were conducted using the data described above. First, sample and scale descriptive statistics were computed. Second, the consistency between CRS recommendations and actual security classifications was examined. Third, the associations of the CRS subscales, overall CRS recommendation, and actual security classification with the measures of construct validity (i.e., static risk, need, reintegration potential, and motivation) were examined. Fourth, the percentage of Aboriginal and non-Aboriginal offenders at each CRS-recommended and actual security classification level who were involved in an institutional incident, were convicted of an institutional charge, were released, and were returned to custody were examined. Fifth, the relationship between these measures, the CRS subscales, overall CRS recommendation, and actual security classification were examined. Sixth, the ability of the CRS recommendation and actual security classification to predict the occurrence of these behaviours and outcomes was examined using Receiver Operating Characteristic (ROC) curves. Finally, the association between the DFIA domains and gang membership indicator and all outcome measures were explored.

In contrast to most evaluations of the validity of a classification measure no evaluations of internal consistency were included in the current analysis. Most measures are designed to measure a single construct (e.g., IQ as an index of intelligence). Thus the individual items are designed to evaluate the same construct and traditional measures of internal consistency are warranted. However, the items that constitute the CRS were not designed with the intent to measure a single construct (Luciani et al., 1996). Instead the items were designed to *predict* certain outcomes. To evaluate the contribution of each item the correlation of each item in the

CRS to the prediction of outcomes are presented in Appendix A. Furthermore, the majority of commonly used indices of internal consistency presume that the measure is based on a continuous scale. Although the items on the CRS are numerically scored the possible scores on the items are not continuous and typical internal consistency items could not be used.

Results

Sample Descriptive Information

Overall, 628 women offenders (with 684 CRSs completed)[4] were included in the current study. Approximately three-quarters (471; 74%) of the offenders were non-Aboriginal and one-quarter (157; 26%) were Aboriginal. Aboriginal offenders tended to be younger (M = 33, SD = 8.4) than non-Aboriginal offenders (M = 36, SD = 10.4). Table 1 summarizes the ethnicity of the women offenders. The majority (67%) of Aboriginal offenders identified themselves as First Nations, almost one-third identified as Métis, and the remainder identified themselves as Inuit. The majority (79%) of non-Aboriginal offenders identified themselves as White. Only a small number of non-Aboriginal offenders identified themselves as Black (11%), Latin American (0.5%), or Asian / East Indian (4%). There was a small group of women offenders (4%) that had no ethnicity information available in the Offender Management System. This group was categorized as non-Aboriginal under 'Other / Unknown', along with those offenders whose ethnicity was listed as 'other' or 'unknown' (2%).

Table 1
Ethnicity of Women Offenders for Whom CRSs Completed

	Number (%) of Offenders			
Ethnicity	Aboriginal		Non-Aboriginal	
First Nations	105	(67)		
Métis	46	(29)		
Inuit	6	(4)		
White			370	(79)
Black			52	(11)
Latin American			2	(0)
Asian / East Indian			20	(4)
Other / Unknown			27	(6)

Note. $N_{\text{Aboriginal}}$ = 157. $N_{\text{Non-Aboriginal}}$ = 471. The 'other/unknown' ethnicity category refers to women offenders for whom the Offender Management System entry was either 'other' or 'unknown'. No offenders were entered into this category if their ethnicity was known.

[4] If an offender was admitted more than once in the period for which data were extracted, she may have had more than one CRS completed.

Irrespective of ethnicity, the vast majority (99%) of offenders were serving determinate sentences. On average, Aboriginal (M = 3.0 years, SD = 1.6) offenders' sentences were the same length as non-Aboriginal (M = 3.0 years, SD = 1.5) offenders' sentences. The majority of Aboriginal (71%) and non-Aboriginal (71%) offenders were convicted of at least one non-violent offence. In contrast, almost two-thirds (63%) of Aboriginal offenders but just over one-third (35%) of non-Aboriginal offenders were convicted of at least one violent offence. To further explore the group differences Table 2 summarizes the specific types of violent and non-violent offences of which offenders were convicted. A greater percentage of non-Aboriginal offenders were convicted of drug and property offences. A greater percentage of Aboriginal offenders were convicted of assault, homicide / attempted homicide, and other violent offences. The difference between the percentage of Aboriginal and non-Aboriginal offenders who committed other types of crime was less than five percentage points.

Table 2

Offences Committed by Aboriginal and non-Aboriginal Offenders

	Number (%) of Offenders			
Offence Category	Aboriginal		Non-Aboriginal	
Violent Offences				
Homicide & Attempted Homicide	19	(12)	13	(3)
Sexual Offences	10	(6)	25	(5)
Robbery	35	(22)	83	(18)
Assault	36	(23)	40	(9)
Other Violent Offences	34	(22)	59	(13)
Non-Violent Offences				
Drug Offences	12	(8)	62	(13)
Property Offences	61	(39)	211	(45)
Other Non-Violent Offences	96	(62)	275	(59)

Note. $N_{\text{Aboriginal}}$ = 157. $N_{\text{Non-Aboriginal}}$ = 471. Offence data was missing for 1 Aboriginal offender and 7 non-Aboriginal offenders. Percentages do not add up to 100 as some offenders were convicted of more than one offence.

CRS Descriptive Information

Parametric statistical analyses are based on the assumption that data are continuous (e.g., Kutner, Nachtsheim, Neter, & Li, 2004). Although CRS items are scored numerically they are not continuous – that is, not every score is possible. For example, for the item 'number of prior

convictions' on the security risk subscale, if an offender has no prior convictions she receives a score of zero, if she has one prior conviction she receives a three, and so on. It is impossible for an offender to receive a score between any of the preset values. Given that the CRS is not continuous, traditional descriptive measures such as means are not appropriate (Kutner et al., 2004) and not reported.

To be able to analyze the data appropriately and ensure consistency across research reports, Blanchette and colleagues' (2002) methodology was used. First, the median value for *all* women offenders on each CRS item was calculated. Second, Aboriginal and non-Aboriginal offenders were categorized as high if they were above the median and low if they were at or below the median.[5] Finally, the percentage of offenders in either the high or low group for each item was examined for Aboriginal and non-Aboriginal offenders. Table 3 summarizes the results of this analysis for each item on both CRS subscales. On the security risk subscale substantially more non-Aboriginal than Aboriginal offenders were classified as low for severity of current offence (30 percentage point difference [PPD]), street stability (25 PPD), prior parole / statutory release (20 PPD). On the institutional adjustment subscale substantially more non-Aboriginal offenders than Aboriginal offenders were classified as low on: alcohol / drug use (28 PPD), street stability (26 PPD), and age at time of sentencing (16 PPD). All other differences in the percentage of non-Aboriginal offenders classified as low relative to Aboriginal offenders were less than 16 PPD. There was no item where a greater percentage of Aboriginal offenders were classified as low than non-Aboriginal offenders. These results are consistent with Blanchette and colleagues' (2002) report.

[5] For some items (e.g., sentence length and escape history) very few offenders had very long sentences or ever attempted escape. Therefore, the median split procedure resulted in uneven groups for these variables. Analyses concerning these skewed variables must be interpreted cautiously due to the low number of offenders that may be included in either the low or high group.

Table 3

Distribution of High and Low Scores on CRS Items

	Percent of Scores			
	Aboriginal		Non-Aboriginal	
CRS Subscale Items	Low	High	Low	High
Security Risk Subscale				
Number of prior convictions	45	55	60	40
Most serious outstanding charge	86	14	88	12
Severity of current offence	25	75	55	45
Sentence length	89	11	90	10
Street stability	41	59	66	34
Prior parole / statutory release	41	59	61	39
Age at first federal admission	39	61	57	43
Institutional Adjustment Subscale				
History of institutional incidents	58	42	68	32
Escape history	88	12	92	8
Street stability	39	61	65	35
Alcohol / drug use	21	79	49	51
Age at time of sentencing	49	51	65	35

Note. The "street stability" item appears in both CRS subscales, though the scoring for each subscale differs. $N_{\text{Aboriginal}} = 157$. $N_{\text{Non-Aboriginal}} = 471$.

Prior to detailed analysis of the CRS it was necessary to examine how the CRS subscales and the overall CRS classify women offenders. Based on the overall CRS classification just over half (52%) of the women offenders had a recommended classification of minimum security. Most of the remaining offenders (42%) were classified as medium security and a small minority (5%) as maximum security. Table 4 presents the distribution of security classifications for Aboriginal and non-Aboriginal offenders based on both the CRS subscales and the overall CRS recommendation. Across ethnicities, the security risk subscale captured differences between offenders at minimum and medium security while the institutional adjustment subscale captured a subset of offenders at maximum security.

Based on the overall CRS recommendation, Aboriginal offenders were more often classified at medium security than non-Aboriginal offenders (see Table 4). The converse was true for non-Aboriginal offenders classified at minimum security. These patterns largely

reflected differences in the security risk subscale. The same pattern of classification was found by Blanchette et al. (2002).

Table 4

Distribution of CRS Subscale and Overall Security Classifications

	Number (%) of CRSs			
Security Classification	Aboriginal		Non-Aboriginal	
Security Risk Subscale				
Minimum Security	55	(31)	316	(62)
Medium Security	119	(68)	192	(38)
Maximum Security	1	(1)	1	(0)
Institutional Adjustment Subscale				
Minimum Security	158	(90)	476	(94)
Medium Security	4	(2)	11	(2)
Maximum Security	13	(7)	22	(4)
Overall CRS Classification				
Minimum Security	53	(30)	306	(60)
Medium Security	108	(62)	180	(35)
Maximum Security	14	(8)	23	(5)

Note. $N_{\text{Aboriginal}} = 157$. $N_{\text{Non-Aboriginal}} = 471$. Percentages may not sum to 100 due to rounding.

CRS Recommendation and Actual Decisions

An indicator that a classification instrument produces results with which staff members agree is how often the classification ultimately applied differs from the classification recommended by the CRS (Brennan & Austin, 1997). When differences exist this could indicate that, in the staff member's professional judgment, information other than that captured by the CRS is also relevant to the security classification decision for that offender.

Table 5 contrasts offenders' CRS classifications with their final security classification. An almost equal percentage of Aboriginal and non-Aboriginal offenders (73% and 72%, respectively) had a CRS classification that matched their final security classification. These concordance rates are slightly lower than those previously reported (Blanchette et al., 2002). For Aboriginal offenders an almost equal percentage of actual classifications were lower (13%) or higher (15%) than the CRS recommendation. The percentage of non-Aboriginal offenders whose

final security classification was lower (13%) or higher (16%) than the CRS recommendation were essentially the same.

Table 5

CRS Recommendations and Final Security Classification Decisions

	Final Security Classification							
	Minimum		Medium		Maximum		Total	
CRS Recommendation	*n*	(%)	*n*	(%)	*n*	(%)	*n*	(%)
Aboriginal Offenders								
Minimum	30	(17)	22	(13)	1	(1)	53	(30)
Medium	12	(7)	93	(53)	3	(2)	108	(62)
Maximum	0	(0)	10	(6)	4	(2)	14	(8)
Total	42	(24)	125	(71)	8	(5)	175	
Non-Aboriginal Offenders								
Minimum	236	(46)	68	(13)	2	(0)	306	(60)
Medium	50	(10)	121	(24)	9	(2)	180	(35)
Maximum	1	(0)	13	(6)	9	(2)	23	(5)
Total	287	(56)	202	(40)	20	(4)	509	

Note. Concordant cases appear on the shaded diagonal. Cases where final security classification was *higher / lower* than the CRS recommendation are *above / below* the diagonal, respectively. Percentages may not sum to 100 due to rounding.

Associations Between the CRS and Relevant Measures

A measure has convergent validity when a classification on that measure is associated with other theoretically related measures (Schwab, 2005). In the context of the current study the other relevant measures are: risk, need, reintegration potential[6], and motivation. Table 6 presents these associations for both CRS subscales and the overall CRS classification.[7] Overall, the associations of the four indicators were strongest with institutional adjustment subscale classification. The associations were weakest with security risk subscale classification and in between the two subscales for the overall CRS classification. Notwithstanding two minor

[6] Reintegration potential is partially based on an offender's CRS recommendation. Therefore, the association between CRS and reintegration potential should be interpreted cautiously as the relationship will most likely be inflated due to the partial dependency of reintegration potential scores on CRS recommendation.

[7] As both the CRS subscales and overall CRS classification data are not continuous Goodman-Kruskal's gamma (γ) was used as an index of the association between the variables (Howell, 2007). Gamma can be interpreted in the same fashion as a normal correlation coefficient.

exceptions (i.e., motivation with both security risk subscale and overall CRS recommendation) the relationships were stronger for non-Aboriginal offenders. All associations were moderate to strong and in the expected directions. These results provide support that the CRS and its associated subscales have convergent validity.

Table 6
CRS Security Classifications and Associations with Risk, Need, Reintegration Potential, and Motivation.

	Index of Relationship		
	CRS Subscale		Overall CRS Classification
Measure	Institutional Adjustment	Security Risk	
	Aboriginal Offenders		
Static Risk	.27	.22	.22
Need	.32	.20	.25
Reintegration Potential	-.50	-.26	-.33
Motivation	-.56	-.25	-.32
	Non-Aboriginal Offenders		
Static Risk	.60	.33	.36
Need	.77	.41	.45
Reintegration Potential	-.85	-.56	-.62
Motivation	-.64	-.15	-.23

Note. $N_{\text{Aboriginal}} = 156$. $N_{\text{Non-Aboriginal}} = 476$

Predictive Validity

The goal of security classification is to classify offenders to a security level which is not more restrictive than appropriate while ensuring the safety of the public and others around them (CSC, 2010). Therefore, the CRS should predict the occurrence of behaviours that jeopardize these goals, and is considered to have predictive validity if it can predict those behaviours at rates better than chance (Schwab, 2005). The predictive validity of the CRS was examined with respect to institutional behaviour, escapes, discretionary release, and post-release outcome.

Institutional behaviour

One of the challenges in conducting these analyses was determining the follow-up period. To maximize the number of offenders available for analysis a 3-month follow-up period was

used for analyses of institutional behaviour.[8] With a 3-month follow-up period, data were available for approximately 75% of both Aboriginal and non-Aboriginal offenders. Two aspects of institutional behaviour were examined: involvement in institutional incidents and institutional charges. Both measures were included as they both provide an index of behaviour that could pose a security risk or represent poor institutional adjustment.

Table 7 provides a summary of the percentage of Aboriginal and non-Aboriginal offenders involved in major and minor institutional incidents. As expected, the percentage of Aboriginal and non-Aboriginal offenders involved in major institutional incidents increased from minimum to maximum CRS classification. This pattern was similar for final security classifications. The percentage of Aboriginal and non-Aboriginal offenders involved in minor institutional incidents also increased by CRS and actual security classification. However, the increased offender involvement in minor institutional incidents from minimum to maximum was clearer when final security classification was considered. These results indicate that both the CRS and final security classification are associated with involvement in institutional incidents.

[8] Using a one year follow-up period data from only 25% (N = 177) of all offenders was available for analysis. Using a six-month follow-up period data was only available from 45% (N = 311) of all offenders for analysis. This was deemed to be too great a loss of data.

Table 7

Involvement in Institutional Incidents by Security Classification

	Cases Involved in Institutional Incidents (%)			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Minor	Major	Minor	Major
CRS Recommendation				
Minimum	15	3	12	7
Medium	15	14	20	8
Maximum	18[a]	45[a]	22	17
Actual Classification				
Minimum	7	0	15	5
Medium	17	16	16	9
Maximum	40[a]	40[a]	27	27

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$. Minor incidents include damage to government or personal property, possession of unauthorized items, information technology incidents, theft, fire, minor disturbance, disciplinary problems, and being under the influence. Major incidents include murder, hostage-taking, major disturbances, fights and assaults, sexual assaults, possession and transportation of contraband, and escape-related incidents.
[a] There were only 11 Aboriginal offenders the CRS classified as maximum and 5 whose final classification was maximum. Therefore, these percentages should be interpreted cautiously.

Another measure of institutional behaviour is conviction of an institutional charge. Table 8 summarizes the percentage of Aboriginal and non-Aboriginal offenders who were convicted of minor and serious institutional charges. As CRS recommendation increased from minimum to maximum the percentage of Aboriginal and non-Aboriginal offenders convicted of minor and serious institutional charges increased. The results concerning actual security classification decisions were not as clear. Specifically, the percentage of Aboriginal offenders convicted of minor institutional charges classified to maximum and medium security did not differ. This may be due to the small number of Aboriginal offenders ($n = 5$) classified to maximum security; such a small number can lead to misleading percentages. All other results for final security classifications were as expected.

Table 8

Major and Serious Institutional Convictions by Security Classification

	Cases Convicted of Institutional Charges (%)			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Minor	Serious	Minor	Serious
CRS Recommendation				
Minimum	36	3	22	8
Medium	33	10	40	14
Maximum	45[a]	18[a]	56	17
Actual Classification				
Minimum	20	0	21	6
Medium	40	9	40	14
Maximum	40[a]	40[a]	53	40

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$. Institutional charges are categorized as minor or serious based on their severity, not on the type of action leading to the charge.

[a] There were only 11 Aboriginal offenders the CRS classified as maximum and 5 whose final classification was maximum. Therefore, these percentages should be interpreted cautiously.

The relationships of CRS classification, subscale classification, and final security classification with minor and major institutional incidents were examined (Table 9). For Aboriginal offenders, all the security classification measures had moderate to large associations with involvement in major institutional incidents. In contrast, overall CRS classification and CRS subscales were weakly associated with minor institutional incidents; there was a moderate association for final security classification. For non-Aboriginal offenders the associations of the CRS classification and its subscales with involvement in minor and major institutional incidents were relatively weak. However, there was a moderate relationship between final security classification and involvement in major institutional incidents. The relationships between each item on the CRS and occurrence of institutional incidents are presented in Appendix A (Table A1). The individual item relationships were relatively weak but most were in the expected direction. As expected, the strongest relationships between individual items and involvement in major or minor institutional incidents occurred with items on the institutional adjustment subscale. Nonetheless, the magnitude of the associations between institutional adjustment subscale items and involvement in minor or major institutional adjustment were not as strong as expected.

Table 9
Association of CRS Subscales, Overall CRS Recommendation, and Actual Classification with Institutional Incidents

	Rank-Biserial Correlation Coefficient (r_{rb})			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Minor Incident	Major Incident	Minor Incident	Major Incident
CRS Subscales				
Security Risk	.00	.25	.12	.08
Institutional Adjustment	.06	.29	.04	.11
Overall CRS Recommendation	.01	.42	.15	.09
Actual Classification	.20	.32	.05	.27

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$.

ROC curves were used to examine the ability of the CRS to predict an offender's involvement in an institutional incident (Hosmer & Lemeshow, 2000). An index of the predictive power of a measure based on ROC curves is the area under the curve (AUC). The AUC can range from 0.5 (chance prediction) to 1.0 (perfect prediction).[9] In practice, a measure that produces an AUC of 0.6 or greater is considered an 'acceptable' predictor and a measure with an AUC of 0.7 or greater is considered a 'good' predictor.

Table 10 presents the AUC values for both the CRS classification and final classification in predicting the occurrence of minor and major institutional incidents. For Aboriginal offenders the CRS was a good predictor of involvement in major institutional incidents but it did not predict involvement in minor institutional incidents. Final security decisions were an acceptable predictor of involvement in both minor and major institutional incidents. For non-Aboriginal offenders the CRS recommendation had some predictive ability for minor institutional incidents but almost none for major institutional incidents. Actual security classification provided acceptable prediction of major institutional incidents but little predictive power for minor institutional incidents.

[9] The number of offenders classified at maximum security was small relative to the remainder of the population. However, the AUC is not influenced by the inclusion of rare events or small groups (Bradley, 1997).

Table 10

ROC Analyses: Predictive Ability of CRS Security Classification for Institutional Incidents

	Area Under the Curve (AUC)	
Model	Aboriginal Offenders	Non-Aboriginal Offenders
Minor Institutional Incident		
CRS Recommendation	.51	.58
Actual Classification	.60	.53
Major Institutional Incident		
CRS Recommendation	.71	.54
Actual Classification	.66	.63

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$.

The same analyses were repeated for conviction of institutional charges. Table 11 summarizes the associations of the CRS classification, CRS subscales, and actual security classification with conviction of minor and serious institutional charges. The associations of both CRS subscale classifications and conviction of serious institutional charges was moderate to strong for Aboriginal offenders. In contrast, the same associations were weak for non-Aboriginal offenders. The association between overall CRS recommendation and conviction of major institutional charges was moderate for non-Aboriginal offenders. Furthermore, the association between actual security classification and conviction of serious institutional charges for both Aboriginal and non-Aboriginal offenders were of moderate strength and of similar magnitude. The security risk subscale classification, overall CRS classification, and final security classification were all moderately associated with conviction of minor institutional charges for non-Aboriginal offenders. In contrast, only final security classification was associated with conviction of minor institutional charges for Aboriginal offenders. The associations of the individual items on the CRS with conviction of institutional charges are presented in Appendix A (Table A2). The relationships were relatively weak but the majority of the associations were in the expected direction. Those associations that were negative were negligible in strength. As was the case for the prediction of involvement in institutional incidents the magnitude of the associations between institutional adjustment subscale items and involvement in minor or major institutional adjustment were not as strong as expected.

Table 11

Relationship Between Security Classification and Conviction of Institutional Charges

	Rank-Biserial Correlation Coefficient (r_{rb})			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Minor Charge	Serious Charge	Minor Charge	Serious Charge
CRS Subscales				
Security Risk	.02	.23	.20	.13
Institutional Adjustment	.02	.28	.09	.07
Overall CRS Recommendation	.02	.28	.24	.17
Actual Classification	.15	.36	.24	.32

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$.

The AUC values for the prediction of conviction of institutional charges are summarized in Table 12. The CRS recommendation provided 'acceptable' or close to acceptable predictive power for conviction of minor or serious institutional charges for non-Aboriginal offenders. Actual security classifications resulted in predictions that, though of greater magnitude, still fell in the 'acceptable' range. With the exception of the lack of predictive ability of the CRS for minor institutional charges, the results were similar for Aboriginal offenders.

Table 12

ROC Analyses: Predictive Ability of Security Classification for Conviction of Institutional Charge

	Area Under the Curve (AUC)	
Model	Aboriginal Offenders	Non-Aboriginal Offenders
Minor Institutional Charge		
CRS Recommendation	.51	.62
Actual Classification	.58	.62
Serious Institutional Charge		
CRS Recommendation	.64	.59
Actual Classification	.68	.66

Note. $N_{\text{Aboriginal}} = 94$. $N_{\text{Non-Aboriginal}} = 217$.

In summary, the results presented in this section provide several indications of the CRS's predictive validity with respect to institutional behaviour. First, the percentage of Aboriginal and non-Aboriginal offenders involved in both major and minor institutional incidents were in the expected directions across security classifications. Second, the associations between CRS recommendations and involvement in major institutional incidents or being convicted of a serious institutional charge were moderate to strong for both groups of offenders. Third, CRS recommendations and final security decisions provided 'acceptable' predictive ability. However, the CRS did struggle to predict the occurrence of minor institutional incidents and minor institutional charges. Given that the CRS is intended to measure poor institutional adjustment, and that it predicts the more serious indicators thereof, limited predictive ability with respect to minor incidents and charges is of less concern.

Escapes

One of the goals of the security risk subscale (and the CRS in general) is to evaluate the risk an offender would present if she were to escape an institution. Due to the rarity of escapes, the frequency of escape-related behaviour was examined over a one-year follow-up. As a result of the long follow-up period, data were only available for 30% and 24% of Aboriginal and non-Aboriginal offenders, respectively. No Aboriginal offenders and only two non-Aboriginal offenders carried out any escape-related behaviour during the follow-up period. Within the time period specified no Aboriginal and only one non-Aboriginal offender actually escaped from custody. Therefore, it was not possible to perform any statistical analyses concerning the ability of the CRS and final security classification to predict involvement in escapes.

Discretionary Release

For offenders released within one year of the completion of the CRS, the ability of the CRS to predict whether release was discretionary was also examined.[10] Due to the short follow-up period employed, relative to sentence length, the results reported in this section under represent offenders with longer sentences. Table 13 summarizes the percentage of Aboriginal

[10] Although offenders in federal institutions have sentences of two years or more there are two situations in which an offender could be released within one year of admission. First, an offender is eligible for parole after serving less than a third of their sentence (CCRA, 1992). Therefore, an offender with a short sentence may reach their parole eligibility date within the one-year follow-up period. Second, some of the admissions included in the current study represent cases where an offender had already been released from custody but their release had been revoked and they were re-admitted. As the offender, in this situation, would have already served part of their sentence it is possible that they may have been re-released within the one-year follow-up period employed.

and non-Aboriginal offenders by CRS classification and final security classification granted discretionary release. As expected, for both Aboriginal and non-Aboriginal offenders, as CRS and final security classification increased the percentage of offenders granted discretionary release decreased. Although this pattern holds for both groups of offenders it is interesting to note that a smaller percentage of Aboriginal than non-Aboriginal offenders were granted discretionary release at each security level throughout the one-year follow-up period.

Table 13

Percent of Offenders Granted Discretionary Release within One Year by Security Classification

	Discretionary Release (%)	
Security Classification	Aboriginal Offenders	Non-Aboriginal Offenders
CRS Recommendation		
Minimum	50	76
Medium	24	55
Maximum	18[a]	29
Actual Classification		
Minimum	61	84
Medium	22	41
Maximum	0[a]	0

Note. $N_{\text{Aboriginal}} = 122$. $N_{\text{Non-Aboriginal}} = 385$.

[a] There were only 11 Aboriginal offenders the CRS classified as maximum and 5 whose final classification was maximum. Therefore, these percentages should be interpreted cautiously.

The relationships of the overall CRS recommendation, the CRS subscales, and actual security classifications with release during the one-year follow-up period were examined (Table 14). With the exception of the weak relationship between scores on the institutional adjustment subscale for both Aboriginal and non-Aboriginal offenders, all relationships were moderate to strong. As scores on the security risk subscale, overall CRS recommendation, and actual security classification increased, discretionary release became less likely. Overall, the pattern and strength of the relationships were similar for both Aboriginal and non-Aboriginal offenders. Individual item relationships are presented in Appendix A (Table A3). Most relationships were in the expected direction for both groups of offenders and tended to be larger in magnitude than the item-level relationships for the other outcomes examined in the current study. The relationships also tended to be of a greater magnitude for non-Aboriginal offenders.

Table 14

Relationship of Security Classification with Discretionary Releases

	Rank-Biserial Correlation Coefficient (r_{rb})	
Security Classification	Aboriginal Offenders	Non-Aboriginal Offenders
CRS Subscales		
Security Risk	-.27	-.25
Institutional Adjustment	-.09	-.09
Overall CRS Recommendation	-.27	-.27
Actual Classification	-.41	-.50

Note. $N_{\text{Aboriginal}} = 122$. $N_{\text{Non-Aboriginal}} = 385$.

ROC curves and AUC values were calculated to examine the predictive ability of the CRS recommendation and actual classification in terms of discretionary release. CRS recommendations were 'acceptable' at predicting discretionary release for both Aboriginal and non-Aboriginal offenders. The difference in AUC values for these two groups did not indicate any practical differences in the CRS's predictive ability. Offenders' actual security classification provided a 'good' predictor of discretionary release for both groups.

Table 15

ROC Analyses: Predictive Ability of Security Classification for Granting of Discretionary Release

	Area Under the Curve (AUC)	
Model	Aboriginal Offenders	Non-Aboriginal Offenders
CRS Recommendation	.64	.63
Actual Classification	.70	.75

Note. $N_{\text{Aboriginal}} = 122$. $N_{\text{Non-Aboriginal}} = 385$.

Post-Release Outcome

The final outcome examined as a measure of the CRS's predictive validity was the offenders' post-release outcome. Post-release outcome in the context of the current study refers to whether or not an offender was returned to custody, either with or without a new offence, within a one-year follow-up period. It is important to note that though the CRS was not originally intended to predict post-release outcome, it is now reflected in the reintegration

potential measure used to estimate offenders' likelihood of successful return to the community after release. As such, post-release outcome is a useful index of an offender's risk (which the CRS was designed to evaluate). Therefore, analyses of post-release outcome were conducted, but the role of CRS vis-à-vis this outcome should be kept in mind in interpreting the results.

Overall, 22% of the women offenders were returned to custody. A slightly greater percentage of Aboriginal (24%) offenders than non-Aboriginal (21%) offenders were returned to custody. Table 16 summarizes the percentage of offenders who were returned to custody. For both Aboriginal and non-Aboriginal offenders, as CRS and actual security classification increased the percentage of offenders who returned to custody increased. For any return to custody the differences between the three CRS security classifications, though not large, were in the expected direction. The results concerning the maximum security classification based on an offender's actual classification were difficult to interpret due to the extremely small number of offenders in this group. Nonetheless, the percentage of Aboriginal and non-Aboriginal offenders who were returned to custody differed in the expected direction from medium to minimum security classification.

Table 16

Return to Custody and Security Classification

	Offenders Returned to Custody (%)			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Any Return	Return with Offence	Any Return	Return with Offence
CRS Recommendation				
Minimum	23	0	21	2
Medium	24	6	21	5
Maximum	30[a]	20[a]	25	8
Actual Classification				
Minimum	22	0	15	2
Medium	27	8	35	5
Maximum	0[a]	0[a]	13	13

Note. $N_{\text{Aboriginal}} = 90$. $N_{\text{Non-Aboriginal}} = 263$.

[a] There were only 11 Aboriginal offenders the CRS classified as maximum and 5 whose final classification was maximum. Therefore, these percentages should be interpreted cautiously.

The relationships of the overall CRS recommendation, the CRS subscales, and actual security classifications with post-release outcome during the one-year follow-up period were examined (Table 17). The overall CRS classification and the institutional adjustment subscale were strongly and moderately related to return with an offence for Aboriginal and non-Aboriginal offenders, respectively. There was little to no relationship between either of the security classification measures and any return to custody for both Aboriginal and non-Aboriginal offenders. In other words, though the CRS was not designed to evaluate post-release outcome, there was some association of CRS classification and return to custody with offence. This association increased confidence in the predictive validity of the measure. For completeness, the individual CRS item and post-release outcomes are summarized in Appendix A (Table A4). Although the majority of the associations were in the expected direction several of them were actually in the opposite direction (i.e., negative). The majority of the negative direction associations were very weak. However, there were some exceptions. The association of the security risk subscale item 'prior parole / statutory release, sentence length, and escape history' was negative only for Aboriginal offenders. The association of 'severity of current offence' was moderately negative for non-Aboriginal offenders only. This means that lower (i.e., more negative) scores on these CRS items were associated with higher rates of return to custody.

Table 17

Relationships between Security Classification and Return to Custody

	Rank-Biserial Correlation Coefficient (r_{rb})			
	Aboriginal Offenders		Non-Aboriginal Offenders	
Security Classification	Any Return	Return with Offence	Any Return	Return with Offence
CRS Subscales				
Security Risk	-.01	.12	-.02	.16
Institutional Adjustment	.05	.47	.04	.20
Overall CRS Recommendation	.04	.49	.02	.29
Actual Classification	-.02	.21	.22	.31

Note. $N_{\text{Aboriginal}} = 90$. $N_{\text{Non-Aboriginal}} = 263$.

AUC values were calculated to determine how well the CRS recommendation and actual classification decisions predicted post-release outcome (Table 18). With respect to the prediction of any return to custody, the CRS was not predictive for either group of offenders. For Aboriginal offenders, the same was true for actual security classification; for their non-Aboriginal counterparts, however, actual security classification was 'acceptably' predictive of any return to custody. In contrast, the CRS classification had 'good' and 'acceptable' predictive ability for return with a new offence for Aboriginal and non-Aboriginal offenders, respectively. Actual security classification was as predictive of a return with a new offence as the CRS classification for non-Aboriginal offenders. In contrast, actual security classification was less predictive of return with a new offence than the CRS classification, but still 'acceptably' predictive.

Table 18

ROC Analyses: Predictive Ability of Security Classification for Return to Custody

	Area Under the Curve (AUC)	
Model	Aboriginal Offenders	Non-Aboriginal Offenders
Any Return to Custody		
CRS Recommendation	.52	.51
Actual Classification	.51	.61
Return with a New Offence		
CRS Recommendation	.75	.64
Actual Classification	.61	.64

Note. $N_{\text{Aboriginal}} = 90$. $N_{\text{Non-Aboriginal}} = 263$.

Exploratory Analyses of Additional Variables

Some researchers have expressed concerns that the CRS, particularly for women offenders, does not include variables that have been shown to be associated with risk (Brennan, 2008; Farr, 2000; Hardyman & Van Voorhis, 2004). Many of the variables that researchers have indicated may be associated with risk are included on the DFIA. Therefore, to examine the validity of these concerns the associations between the level of need on each of the DFIA domains and the outcomes of interest were examined.

The extent to which level of need on the DFIA domains was associated with scores on the individual CRS items were examined (Appendix B). The most notable associations were the

large number of moderate to strong associations of items on both subscales to level of need on the substance abuse domain. The majority of items on the institutional adjustment subscale were also moderately associated with level of need on the employment and personal / emotional orientation domain. Overall, these results indicate that for certain domains the CRS items capture the level of need of women offenders.

The relationships found for Aboriginal offenders between DFIA domain need scores and the outcome measures analyzed above are summarized in Table 19. Overall, gang affiliation was not associated with any of the outcomes. This may have been due to the fact that only 15% of the Aboriginal women were identified as being affiliated with gangs. This would have made the identification of a relationship extremely difficult (Kutner et al., 2004). For most of the outcomes, there tended to be a DFIA domain which had a relationship with the outcome of interest of moderate magnitude and greater than the corresponding relationship of the CRS. However, no single DFIA domain emerged as predictive of all related outcomes, and no clear pattern emerged in terms of either institutional behaviour (i.e., minor / major incidents and minor / serious charges), discretionary release, or return to custody.

The relationships of the DFIA domains and gang indicator with the outcomes of interest were also investigated for non-Aboriginal offenders (Table 20). As was the case for Aboriginal offenders, gang affiliation had little to no association with any of the outcomes investigated in the current study; again, low rates of gang affiliation (6%) may have contributed. In contrast to the results with Aboriginal offenders there were some patterns of association. First, need on the substance abuse domain was weakly to strongly associated with all outcomes investigated in the current study except involvement in minor incidents. Second, need on the marital / family domain was moderately to strongly related to discretionary release and both post-release outcomes. Finally, level of need on all DFIA domains with the exception of the employment and attitude domains was moderately associated with involvement in major institutional incidents. These patterns provide some preliminary evidence that, at least for non-Aboriginal offenders, level of need on some DFIA domains may contribute to the security classification process.

Table 19

Association of DFIA Domains and Indicators with Outcomes of Interest: Aboriginal Offenders

DFIA Domain or Indicator	Strength of Association						
	Minor Incident	Major Incident	Minor Charge	Serious Charge	Release Type	Any Return	Return with Offence
Employment Domain	-.16	.03	.21	.13	-.32	.02	-.17
Marital / Family Domain	.23	.03	-.18	.19	-.11	.06	.04
Associates / Social Interaction Domain	-.02	-.01	.17	-.09	-.19	.09	.24
Substance Abuse Domain	.02	.06	-.05	.02	-.09	.15	.12
Community Functioning Domain	.32	-.03	.09	.05	-.15	.04	.50
Personal / Emotional Orientation Domain	.04	.14	-.16	.39	-.04	-.07	.10
Attitude Domain	-.02	-.05	.09	.19	-.13	-.26	.00
Gang Membership / Affiliation Indicator[a]	-.06	.15	.13	-.13	-.03	-.04	.11
N	131				122	90	
Follow-Up Period	3 months				1 year	1 year from release	

Note. For the DFIA domains, analyses compared three levels: (1) those with the factor seen as an asset, no immediate need for improvement, or low need for improvement (DFIA-R only), (2) those having some (DFIA) or moderate (DFIA-R) need for improvement, and (3) those having considerable (DFIA) or a high (DFIA-R) need for improvement; higher scores represent more need. The gang membership/affiliation indicator was dichotomous (yes or no). Strength of association was calculated using rank-biserial correlations (r_{rb}) for the DFIA domains and Cramer's Phi (r_{Φ}) for the gang membership/affiliation indicator.

[a] Only 15% (20) of offenders were affiliated with a gang. Therefore, the relationships must be interpreted cautiously.

Table 20

Association of DFIA Domains and Indicators with Outcomes of Interest: Non-Aboriginal Offenders

DFIA Domain or Indicator	Strength of Association						
	Minor Incident	Major Incident	Minor Charge	Serious Charge	Release Type	Any Return	Return with Offence
Employment Domain	-.01	.05	.08	.10	-.24	.14	.35
Marital / Family Domain	.13	.26	.04	-.02	-.17	.17	.36
Associates / Social Interaction Domain	.07	.19	-.01	-.09	-.12	.12	.19
Substance Abuse Domain	.04	.24	.22	.15	-.41	.34	.38
Community Functioning Domain	.22	.21	-.01	-.13	-.13	.09	-.21
Personal / Emotional Orientation Domain	-.02	.20	.09	.08	-.23	.14	.02
Attitude Domain	-.11	.04	.16	.00	-.08	-.08	-.04
Gang Membership / Affiliation Indicator[a]	.05	.02	-.01	-.01	-.05	-.03	.06
N	379				384	263	
Follow-Up Period	3 months				1 year	1 year from release	

Note. For the DFIA domains, analyses compared three levels: (1) those with the factor seen as an asset, no immediate need for improvement, or low need for improvement (DFIA-R only), (2) those having some (DFIA) or moderate (DFIA-R) need for improvement, and (3) those having considerable (DFIA) or a high (DFIA-R) need for improvement; higher scores represent more need. The gang membership/affiliation indicator was dichotomous (yes or no). Strength of association was calculated using rank-biserial correlations (r_{rb}) for the DFIA domains and Cramer's Phi (r_{Φ}) for the gang membership/affiliation indicator.

[a] Only 6% (21) of offenders were affiliated with a gang. Therefore, the relationships must be interpreted cautiously.

Discussion

One of the first steps in the admission of women offenders into the correctional system is the security classification process. An important component of this process is the completion of the CRS. The current study focused on the validity of the CRS when applied to women offenders as a whole, the validity of the CRS when applied to Aboriginal offenders, and an exploratory analysis of the potential utility of including other variables related to criminogenic need in the CRS.

Validity of the CRS for Women Offenders

The CRS was originally developed with a sample of non-Aboriginal male offenders over two decades ago (Porporino et al., 1989). Although the CRS has since been validated for use with both Aboriginal and non-Aboriginal women offenders (Blanchette et al., 2002; Luciani et al., 1996), some critics have expressed concerns that the CRS should not be used in its current form with women offenders (Webster & Doob, 2004a; 2004b). Furthermore, for any standardized evaluation measure to remain valid it must be periodically checked as the population it is applied to changes (e.g., Austin, 2003; Hardyman & VanVoorhis, 2004). Recent studies have indicated that the characteristics of the offender population in Canada continue to change (Babooram, 2008). Therefore, as the last revalidation of the CRS was conducted over eight years ago the current study was deemed prudent.

In general, the CRS, in conjunction with the professional judgment of staff, continues to be an important tool in the security classification process. As with all structured classification measures there is room for improvement in several areas. Even with these issues in mind, in general, offenders' CRS classifications were related to and allowed for prediction of events that the CRS was designed to evaluate.

Concordance Rates

An indicator of the face validity of the CRS is how often staff members alter the CRS security classification to a different final security classification. Relative to Blanchette et al.'s (2002) revalidation study a slightly larger percentage of women offenders' CRS classifications were adjusted in this study. The concordance rates were almost the same for Aboriginal and non-Aboriginal offenders.

These results have two primary implications. First, the lower concordance rates could indicate that staff members perceive that the CRS may not capture all the factors relevant to making a security classification. Second, there was little difference between Aboriginal and non-Aboriginal offenders in terms of staff members increasing or decreasing the CRS security classification. If staff felt that the CRS was over- or under-classifying either group we would expect to see a difference in the percentage of offenders being placed at higher or lower security levels than the CRS recommendation. As such, these results lead to the inference that while staff may perceive that certain factors are not captured in the CRS, they do not perceive a systematic bias in CRS results.

Convergent Validity

Offenders' CRS-based classifications were moderately to strongly associated with the conceptually relevant constructs of need, risk, reintegration potential, and motivation. As expected both Aboriginal and non-Aboriginal offenders' levels of risk and need increased as their security classification increased. Furthermore, as both groups of offenders' CRS classification increased their reintegration potential and motivation decreased. For both Aboriginal and non-Aboriginal offenders the institutional adjustment subscale tended to be more strongly associated with risk, need, reintegration potential, and motivation than the security risk subscale. These results parallel those of Blanchette and colleagues (2002) study. Overall, the CRS has convergent validity for both Aboriginal and non-Aboriginal offenders.

Predictive validity

An important form of validity for any structured security classification measure is predictive validity. The predictive validity of the CRS was examined with respect to several outcomes. These outcomes can be broadly classified as institutional outcomes (i.e., involvement in minor / major institutional incidents and conviction of minor / serious institutional charges) and non-institutional outcomes (i.e., discretionary release, any return to custody, and return to custody with a new offence).

CRS classification had mixed predictive power for institutional outcomes according to both the specific outcome and the offender's ethnicity. First, on its own the CRS had little predictive ability for involvement in *minor* institutional incidents. In contrast, the CRS did have 'good' predictive ability for involvement in *major* institutional incidents but only for Aboriginal offenders. Second, in terms of conviction of institutional charges the results were also mixed.

The CRS classification provided an 'acceptable' amount of predictive ability for conviction of minor institutional charges but only for non-Aboriginal offenders. Aboriginal and non-Aboriginal offenders' CRS classifications provided an 'acceptable' and almost 'acceptable' predictive power for conviction of *serious* institutional charges, respectively. Though these results are difficult to interpret as CRS classification provided more predictive power for some outcomes for Aboriginal offenders and better predictive power of other outcomes for non-Aboriginal offenders, overall, as would be expected, an offender's CRS classification had the strongest predictive power for the most serious institutional outcomes.

Despite the mixed results for institutional outcomes reported above the most important outcomes of the use of the CRS in the security classification process is the predictive ability of final security placement – that is, the placement that reflects the CRS results, staff's professional judgment and, if appropriate, psychological assessment. As the CRS is only a component of the security classification process, results for the final security placement must also be considered. When the predictive ability of final security classification was examined for all institutional outcomes the results were more positive. With the exception of the prediction of minor institutional incidents for non-Aboriginal offenders, final security classification had 'acceptable' or almost 'acceptable' predictive ability for all outcomes. Again, it is not surprising that final security classification is better at predicting major institutional incidents, as they constitute a much greater security risk.

Another outcome investigated in the current study was the ability of the CRS and final security classification to predict discretionary release. Discretionary release was included in the current study given that it is an index of risk as evaluated by the Parole Board of Canada. In making a decision about discretionary release the Board's primary concern is to preserve the safety of the public (Parole Board of Canada, 2009). Both an offender's CRS and final security classification provided 'acceptable' and 'good' predictive ability, respectively, for both groups of offenders. As expected, the security risk subscale of the CRS was more strongly associated with discretionary release decisions than was the institutional adjustment subscale.

One of several factors that the PBC takes into consideration in reaching discretionary release decisions is the offender's security level (Parole Board of Canada, 2009); as such, CRS classification and discretionary release may have been partially confounded in the current study. However, the predictive ability of both the CRS and final security classification was quite strong

and this minor confound is therefore unlikely to be able to fully explain this ability. In summary, an offender's CRS security classification predicted discretionary release, indicating that the CRS does have predictive validity for this outcome.

The final predictive validity outcome was post-release outcome. Though the CRS is not intended to predict post-release outcome, this outcome was included as a second proxy measure of risk. Both the CRS and final security classification had little predictive ability for any return to custody. CRS classification provided 'good' and 'acceptable' predictive ability for a return to custodywith a new offence for Aboriginal and non-Aboriginal offenders', respectively. For reasons that are unclear an Aboriginal offender's final security classification did not provide as much predictive power as her CRS classification. Overall, both the CRS and final security classification were more predictive of returns to custody with a new offence, which is in keeping with the fact that this outcome is reflective of greater risk.

Finally, at the item level the associations between individual items and outcomes of interest were weaker than expected. The most positive results were for the predictive ability of the security risk items and discretionary release. Only three items were not strongly associated with discretionary release. The results concerning the other outcomes were less positive and the direction and strength of associations for some items were weaker than expected.

In summary, the CRS in conjunction with staff members' professional judgement provide 'acceptable' prediction of the majority of institutional and non-institutional outcomes. Predictive ability was greater for the more serious indicators of institutional maladjustment and risk. There are areas where the predictive ability of the CRS could be greater. While the CRS, like most structured instruments, has room for improvement, in conjunction with staff members' professional judgment, it predicts the occurrence of most relevant institutional behaviours and outcomes.

Aboriginal Women Offenders and the CRS

One of the primary goals of the current study was to evaluate the applicability of the CRS to Aboriginal offenders. The results of the current study clearly indicate Aboriginal offenders are over-represented at higher security levels based on both CRS classifications and staff members' final security decision. Specifically, a greater percentage of Aboriginal offenders are placed at medium security and a smaller percentage at minimum security than non-Aboriginal offenders.

The percentages of Aboriginal and non-Aboriginal offenders classified at maximum security were similar.

Although it is not clear whether Aboriginal offenders are also over-classified, there are several results in the current study which suggest that they are not. First, a larger percentage of Aboriginal offenders were convicted of violent crimes. This finding indicates that the Aboriginal women were higher risk, which is in keeping with a higher security classification. Second, the percentage of Aboriginal and non-Aboriginal offenders placed at a lower security level than the CRS recommended did not substantially differ. This result indicates that staff members do not perceive the CRS as over-classifying Aboriginal offenders. Together these results support the interpretation that Aboriginal offenders are over-represented at higher security levels because they have higher levels of risk rather than because they are over-classified.

Also notable is the similarity of the convergent and predictive validity results for Aboriginal and non-Aboriginal offenders. Though indices of convergent validity tended to be a bit weaker for Aboriginal offenders, all associations were still moderate to strong in magnitude. Second, no clear pattern emerged that indicated that the CRS was systematically more or less predictive of outcomes of interest for Aboriginal offenders. In summary, there is no clear evidence to indicate that the CRS is systematically over-classifying Aboriginal offenders.

Exploratory Analysis of Dynamic Factor Utility

Researchers and policy makers have criticized the CRS for not considering an offender's criminogenic needs during the security classification process. To address some of these concerns, the relationship between level of need on the seven domains of the DFIA and the outcomes used to assess the predictive validity of the CRS were examined.

The results of these analyses were difficult to interpret. For both groups of offenders, for each outcome of interest there was usually an association between level of need on at least one DFIA domain that was of the same or greater magnitude as the relevant association with the CRS. For Aboriginal offenders there was no DFIA domain that was consistently associated with the assessed outcomes. In contrast, some preliminary patterns emerged for non-Aboriginal offenders. Specifically, level of need on the substance abuse domain was moderately to strongly associated with all outcomes except involvement in minor institutional incidents. This result is consistent with previous research findings that substance abuse is associated with negative outcomes such as those analyzed in the current study for both men and women (e.g., Andrews et

al., in press; Blanchette & Brown, 2006). Further examination of the data revealed that the majority of Aboriginal offenders (90%) had high levels of need on the substance abuse subscale. This would make it very difficult to find any association between the outcomes and this domain (Kutner et al., 2004). Furthermore, level of need on the marital / family domain was moderately to strongly associated with the granting of discretionary release and post-release outcomes. Andrews and colleagues (in press) recently found that level marital / family need was associated with recidivism for both men and women; therefore, this finding was not surprising. It is unclear why the same associations were not observed for Aboriginal offenders. The lack of relationship may be due to the different structure and values of Aboriginal families relative to non-Aboriginal people (e.g., Statistics Canada, 2008). Overall, these results provide some early evidence that including level of need in some areas may be beneficial to security classification of women offenders.

That said, further investigation in this area is required because it is unclear whether the associations between the DFIA domains and the outcomes overlap with or are independent from those of the CRS items. Some of the items in the CRS are also reflected in various DFIA domains. For example, the street stability item on both CRS subscales encompasses factors including employment / education, marital / family adjustment, and interpersonal relationships. Indeed, there were correlations of weak to strong magnitude between CRS items and DFIA domains. If level of need explains the same variance as CRS items in outcome scores than the inclusion of both would be redundant.

Future Directions and Conclusion

Overall, the results of the current study were in the expected direction. Relative to previous studies of the applicability of the CRS to women offenders (Blanchette et al., 2002; Luciani et al., 1996) the results of the current study are not as promising. Nonetheless, security classification as a whole is consistently predictive of the most serious indicators of risk and institutional adjustment. Study results support that the current approach to the initial security classification of women offenders allows for the protection and safety of the public, other offenders, and staff. Furthermore, there was no evidence that Aboriginal women offenders are over-classified relative to non-Aboriginal women offenders.

Clearly, as with all structured classification measures, there remains room for improvement with the CRS. The current study has identified some areas which may be worthy of

further attention if efforts to ameliorate the initial security classification of women offenders are pursued. In particular, should this amelioration be pursued an evaluation of certain individual items on each of the CRS subscales should be examined and the potential inclusion of level of need on dynamic factors could be considered.

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Appendices

Appendix A: Association of CRS Items with Outcomes of Interest

Table A1

Relationship Between CRS Items and Institutional Incidents

	Extent of Association (r_Φ)			
	Aboriginal		Non-Aboriginal	
Security Classification	Minor Incident	Major Incident	Minor Incident	Major Incident
Security Risk Subscale				
Number of prior convictions	.07	.16	.09	.06
Most serious outstanding charge	.02	-.02	-.04	.04
Severity of current offence	.01	-.08	.05	-.03
Sentence length	.07	.03	.01	-.07
Street stability	.09	.17	.09	.14
Prior parole / statutory release	.08	.11	-.01	.05
Age at first federal admission	.07	.12	.06	.09
Institutional Adjustment Subscale				
History of institutional incidents	.21	.23	.08	.14
Escape history	.19	.29*	.05	.12
Street stability	.06	.14	.08	.13
Alcohol / drug use	.01	.04	.08	.13
Age at time of sentencing	-.05	-.03	.12	.06

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$.
*$p < .001$ (equivalent to $p < .05$ after application of Bonferroni correction).

Table A2

Relationship Between CRS Items and Institutional Charges

	Extent of Association (r_Φ)			
	Aboriginal		Non-Aboriginal	
Security Classification	Minor Charge	Serious Charge	Minor Charge	Serious Charge
Security Risk Subscale				
Number of prior convictions	.03	.10	.15	.15
Most serious outstanding charge	-.01	-.04	.10	.00
Severity of current offence	-.04	-.01	.05	.07
Sentence length	-.03	.11	-.01	-.09
Street stability	.09	.05	.18*	.16
Prior parole / statutory release	.19	.14	.16	.15
Age at first federal admission	.08	.07	.09	.05
Institutional Adjustment Subscale				
History of institutional incidents	.10	.25	.24**	.16
Escape history	.01	.19	.12	.17*
Street stability	.11	.03	.15	.17*
Alcohol / drug use	-.05	-.11	.21**	.14
Age at time of sentencing	.09	.03	.11	.09

Note. $N_{\text{Aboriginal}} = 131$. $N_{\text{Non-Aboriginal}} = 381$.
*$p < .001$ (equivalent to $p < .05$ after application of Bonferroni correction). **$p < .0002$ (equivalent to $p < .01$ after application of Bonferroni correction).

Table A3

Relationship between CRS Items and Discretionary Release

	Extent of Association (r_{Φ})	
Security Classification	Aboriginal	Non-Aboriginal
Security Risk Subscale		
Number of prior convictions	-.07	-.25**
Most serious outstanding charge	-.07	-.20**
Severity of current offence	-.20	-.05
Sentence length	-.04	.14
Street stability	-.40**	-.23**
Prior parole / statutory release	-.83**	-.79**
Age at first federal admission	-.08	-.08
Institutional Adjustment Subscale		
History of institutional incidents	-.38**	-.41**
Escape history	-.10	-.12
Street stability	-.37**	-.23**
Alcohol / drug use	-.18	-.40**
Age at time of sentencing	-.07	-.10

Note. $N_{\text{Aboriginal}} = 122$. $N_{\text{Non-Aboriginal}} = 385$.
**$p < .0004$ (equivalent to $p < .01$ after application of Bonferroni correction).

Table A4

Association of CRS Items and Post-Release Outcome

	Extent of Association (r_Φ)			
	Aboriginal		Non-Aboriginal	
Security Classification	Any Return	Return with Offence	Any Return	Return with Offence
Security Risk Subscale				
Number of prior convictions	-.03	.23	.19	.05
Most serious outstanding charge	.03	.06	-.02	.07
Severity of current offence	-.01	-.07	-.13	-.01
Sentence length	-.15	-.06	-.08	-.05
Street stability	.12	.06	.09	.02
Prior parole / statutory release	-.26	-.22	.08	.14
Age at first federal admission	.09	.07	-.01	.07
Institutional Adjustment Subscale				
History of institutional incidents	-.08	.06	.14	.07
Escape history	-.12	.07	.14	.04
Street stability	.12	.06	.10	.02
Alcohol / drug use	.12	.01	.15	.09
Age at time of sentencing	.05	.03	.01	.05

Note. $N_{\text{Aboriginal}} = 90$. $N_{\text{Non-Aboriginal}} = 263$.

Appendix B: Association of DFIA Domains and Indicators with CRS Items

CRS Items	Extent of Association							
	DFIA Domains							DFIA Gang Indicator [a]
	Employment	Marital/ Family	Associates/ Social Interaction	Substance Abuse	Community Functioning	Personal/ Emotional Orientation	Attitude	
Security Risk Subscale								
Number of prior convictions	.18	.11	.09	.35	.16	.19	.18	.07
Most serious outstanding charge	.09	.00	.06	.14	.01	.03	.14	.06
Severity of current offence	.10	.18	.08	.07	-.01	.14	.03	.03
Sentence length	-.05	.04	-.11	-.19	-.02	.08	-.03	.03
Street stability	.22	.19	.27	.44	.21	.26	.04	.11
Prior parole / statutory release	.20	.08	.10	.29	.10	.13	.17	.12
Age at first federal admission	.15	.09	.23	.18	.02	.00	.05	.11
Institutional Adjustment Subscale								
History of institutional incidents	.22	.09	.09	.32	.03	.22	.22	.10
Escape history	.10	.08	.05	.29	.06	.16	.16	.00
Street stability	.23	.19	.25	.45	.20	.29	.05	.10
Alcohol / drug use	.20	.16	.26	.72	.10	.20	.05	.06
Age at time of sentencing	.15	.13	.25	.15	.02	.00	-.04	.12

Note. For the DFIA domains, analyses compared three levels: (1) those with the factor seen as an asset, no immediate need for improvement, or low need for improvement (DFIA-R only), (2) those having some (DFIA) or moderate (DFIA-R) need for improvement, and (3) those having considerable (DFIA) or a high (DFIA-R) need for improvement. The gang membership/affiliation indicator was dichotomous (yes or no). Strength of association was calculated using rank-biserial correlations (r_{rb}) for the DFIA domains and Cramer's Phi (r_{Φ}) for the gang membership/affiliation indicator.

[a] Only 8% (57) of offenders were affiliated with a gang. Therefore, the results of this analysis must be interpreted cautiously.