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Construct Validity of the Static Factors Assessment in the Offender Intake Assessment Process

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Construct Validity of the Static Factors Assessment in the Offender Intake Assessment Process

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Executive Summary

Key words: *risk assessment, Static Factors Assessment, construct validity, Aboriginal offenders, women offenders.*

Risk assessment is an integral activity in corrections, informing decisions throughout offenders' sentences. Given the profound implications of risk assessment for both public safety and the offender, assessment practices should be periodically evaluated and updated to reflect advances in knowledge and to ensure continual utility with changing offender populations.

The Static Factors Assessment (SFA) was developed as part of the Offender Intake Assessment OIA) and consists of 137 items grouped into three subscales: Criminal History Record, Offence Severity Record, and Sex Offence History Checklist (though this report examines only the first two subscales). All items are rated as present or absent. A summary risk judgement (low risk, moderate risk, or high risk) is formed based upon some or all of these items and/or subscales.

The goal of the current study was to examine the construct validity of the SFA. Specifically, are the subscale and summary ratings related to other risk measures utilized by CSC, and are the item scores related to the summary risk judgement?

This study used a sample of 64,605 intake SFA assessments from January 1, 1997 to June 19, 2012. Analyses were conducted for the total population, as well as disaggregated by gender and Aboriginal ancestry. Analyses examined whether the SFA was related to other risk scales for general recidivism (the Statistical Information on Recidivism – Revision 1 [SIR-R1], a proxy measure of the SIR-R1, and dynamic risk ratings) as well as a scale designed to assist security classification decisions (Custody Rating Scale). Relationships between the items and summary risk judgements were also examined.

Although the study is limited in its scope and interpretation, the results generally suggest the Criminal History and Offence Severity subscales are largely functioning as intended. That is, ratings on the items from these scales are related to overall risk ratings (with few exceptions), and the subscales and summary risk ratings are related to other risk measures. This was true of Aboriginal and women offenders as well, although findings tended to be not as strong for Aboriginal men.

Future research should consider how the SFA is related to subsequent release decisions and reoffending, and whether the length of the scale can be reduced while retaining its overall utility.

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Introduction

Risk assessment is a method of evaluating the likelihood of future criminal behaviour by combining multiple risk factors into an overall assessment of recidivism risk (Hanson & Morton-Bourgon, 2009). In the Correctional Service of Canada (CSC), risk assessment informs many decisions, including security classification and treatment recommendations. The Parole Board of Canada (PBC) also relies heavily on risk assessment for both release decisions and recommended conditions of supervision (e.g., residency requirements [Section 133[4.1] of Corrections and Conditional Release Act, 1992).

Given the pervasiveness of risk assessment in the criminal justice system (particularly in sentence management) and its profound consequences for both the offender and for public safety, it is imperative that risk assessment practices are validated. Additionally, as empirical evidence accumulates, risk assessment scales should be continuously re-validated and revised to reflect these advances in knowledge (Dawes, Faust, & Meehl, 1989). Re-validations are also necessary given changing offender profiles (CSC, 2009a, 2009b). Assessing the empirical support of assessment practices is necessary to ensure good decisions are being made. Revising scales as needed (e.g., increasing readability of items or eliminating items with limited utility) may not only improve correctional decision-making, but may also reduce the time required to complete the assessment, thereby contributing to efficiency.

CSC relies on numerous assessment tools and periodically evaluates or updates the scales to ensure they continue to adequately address the needs of the Service and are applicable to changing offender populations. For example, the General Statistical Information on Recidivism scale, a measure of risk of reoffence, was developed in the 1980s (Nuffield, 1982), modified in the 1990s to become the SIR-R1 (see Nafekh & Motiuk, 2002), and has been re-validated to ensure its continual utility and to explore possible application to new groups of offenders, such as Aboriginal or women offenders (e.g., Barnum & Gobeil, 2011a; Nafekh & Motiuk, 2002). Similarly, the Custody Rating Scale, a measure used in assessing preliminary security classifications (CRS; Luciani, Motiuk, & Nafekh, 1996; Porporino, Luciani, Motiuk, Johnston, & Mainwaring, 1989), and the Security Reclassification Scale, used in security classification reviews (SRS; Luciani, Taylor, & Motiuk, 1998), have been re-evaluated since their original development (CRS: Barnum & Gobeil, 2011b; Blanchette, Verbrugge, & Wichmann, 2002;

Gobeil, 2011; Grant & Luciani, 1998; SRS: Gobeil, 2007, 2009). The Dynamic Factors Identification and Analysis (DFIA) assessment, intended to assess dynamic risk/need factors, also underwent substantial empirical analysis, resulting in considerable revisions (Brown & Motiuk, 2005).

One scale that was identified as being in need of evaluation is the Static Factors Assessment (SFA; CSC, 2012a). The SFA is a criminal risk assessment scale designed to provide an overall appraisal of static factors that contribute to an offender's risk of recidivism, and is included with the Offender Intake Assessment (OIA). The overall static risk level is used in calculating the rating of Reintegration Potential (CSC, 2012a), which is used to inform the appropriate interventions and management strategies for offenders. The SFA was developed in 1989 by a national working group, with the goal of improving CSC's assessment of criminal risk and offender needs at admission (Motiuk, 1993).

The SFA consists of three subscales. First, the Criminal History Record (CHR) includes 38 items examining the offender's current and previous criminal offences (e.g., youth and adult convictions and sentences). Second, the Offence Severity Record (OSR) includes 71 items examining the extent of harm from the offender's criminal activity (e.g., type of prior and current offences, victim information, harm to victims). Lastly, the Sex Offence History Checklist (SOHC) has 28 items examining the nature and extent of current and previous sex offending, if applicable (e.g., type of offence, victim information, assessment/treatment history). Given that the SOHC is only applicable to a subset of offenders, it was not examined further in this report.

The SFA is scored by the parole officer or primary worker for all offenders (men and women, Aboriginal and non-Aboriginal). After scoring the items of each of the subscales, the staff member forms a summary judgement of the offender's overall static risk level (low, moderate, or high). A rating of high risk is intended to reflect cases in which the CHR shows considerable involvement in the criminal justice system, the OSR reflects considerable harm to society and to victims, or the SOHC reflects considerable sex offending. A rating of low risk is intended to reflect cases in which the CHR reflects little criminal involvement, the OSR reflects little harm to society and victims, and the SOHC reflects little or no sex offending (and the detention criteria and the SIR-R1 ratings do not contradict these findings). A rating of moderate risk is to be applied to offenders who are not low risk but not high risk (CSC, 2012a).

After the implementation of the OIA (including the SFA) in 1994, Motiuk (1997)

provided some preliminary profile information for 5,235 men and 114 women on selected items of the Criminal History Record and their overall risk and need scores (combining SFA with the assessment of dynamic factors). It was also found that criminal history and offence severity were related to the CRS subscales (Institutional Adjustment and Security Risk) and the SIR-R1. Although the analyses did not explore the validity of the final SFA rating, it provided some preliminary support for the construct validity of the scale.

Aside from Motiuk's (1997) preliminary profile and convergent validity analyses, there has been no major validation of the SFA published by CSC. Given the role of the SFA in intake assessment and Reintegration Potential ratings, a validation study is needed. The focus of this report is on the construct validity of the SFA while a separate report will examine the relationship between the SFA and outcomes, such as release decisions and reoffending. In other words, this report will examine how the scale is being used in practice (e.g., how the items and sections contribute to the overall summary judgement) and whether the SFA is related to measures of similar constructs (e.g., the SIR-R1 and the Custody Rating Scale).

Structure of the SFA: How Items Contribute to Summary Judgement

The SFA is a Structured Professional Judgement (SPJ) risk scale given that the overall assessment is derived from the judgement of the parole officer or primary worker. In terms of historical context, the SFA was developed around the time that psychologists were growing dissatisfied with unstructured clinical judgement and were working towards more objective and transparent risk assessment procedures (see Bonta, 1996 for a description of generations of risk assessment). Unlike actuarial or mechanical risk scales (which compute a total score), SPJ is a method of risk assessment where explicit risk factors are scored, but the combination of these items into an overall evaluation of risk is left to the judgement of the risk evaluator (Boer, Wilson, Gauthier, & Hart, 1997).

Proponents of SPJ argue that professional judgement should be incorporated into risk assessment because the statistical approach of actuarial scales is not always appropriate in individual cases (Webster, Douglas, Eaves, & Hart, 1997). Other researchers, however, have been less supportive of SPJ (Andrews & Bonta, 2010; Bonta, 2002; Quinsey, Harris, Rice, & Cormier, 2006) and classify it as a variation of the first generation of risk assessment (i.e., clinical judgement; Andrews, Bonta, & Wormith, 2006). SPJ provides clear advantages in terms of flexibility, though this added flexibility may have some cost; interrater reliability generally

tends to be lower for structured professional judgements compared to summing item scores (e.g., Helmus & Bourgon, 2011). Overall, SPJ scales have certain advantages, although they may require greater care to use reliably.

Purpose of Current Study

The purpose of this study was to examine the construct validity of the SFA by exploring how the scale is being used and whether it is associated with similar constructs. Such an examination is necessary to ensure that the scale is working as intended, and may inform improvements to correctional assessment practices. The following research questions will be addressed:

1) Are the SFA overall rating and subscale scores (Criminal History Record and Offence Severity Record) related to scores on the SIR-R1, the SIR-proxy, and the Custody Rating Scale?
2) Are the SFA overall rating and subscale scores (Criminal History Record and Offence Severity Record) related to the overall rating on the assessment of dynamic factors?
3) How are the item indicators and subscale scores related to the parole officer or primary worker's overall rating on the SFA? (e.g., are there certain items that best predict an overall rating of "high" risk? Is there evidence that certain subscales are being most heavily weighted in the overall rating?).

Method

Sample

Between 1994 (when the SFA was implemented) and June 19, 2012, there were 643,344 SFA assessments recorded in CSC's Offender Management System (OMS), though many were re-assessments. The study sample examined the first SFA assessment per sentence (provided that at least some item information was included) between January 1, 1997 and June 19, 2012.[1] This left a final sample of 64,605 intake SFA assessments.

The maximum elapsed time between sentence commencement and the SFA assessment was 41 days. Given the lengthy study period (spanning 15 years), it was not uncommon for offenders to have multiple sentences in that timeframe. Each sentence was included because the unit of measurement for construct validity analyses was assessments, not offenders. Specifically, of the 64,605 sentences with SFA assessments, there were 60,415 unique offenders, of whom 3,077 had two sentences, 490 had three, 41 had four, and 2 offenders had six sentences. The remaining data are presented at the level of assessments, not offenders.

Ninety-four percent of the assessments (n = 60,994) were for men; 5.6% (n = 3,611) were for women. Aboriginal offenders represented 19% of the sample (n = 12,265). More detailed data on ethnicity is presented in Table 1. Among Aboriginal offenders, the most commonly reported ethnicity was First Nations (13% of total sample). Among non-Aboriginal offenders, the most common ethnicity was White (66%), followed by Black (7.8%).

The marital status of the offenders in the sample is presented in Table 2. Approximately half of the offenders were single. Roughly 41% were married or common-law, although the rates were somewhat lower for women (34% to 35%). The remaining offenders (between 6% and 18%, depending on the subgroup) were divorced, separated, or widowed.

[1] January 1, 1997 was chosen as the start period because the SFA items were not consistently scored before then. Specifically, between 1994 and 1996, 48% of the initial SFA assessments were missing all item scores (compared to 3% of SFA assessments from 1997 onwards; these cases were excluded).

Table 1

Ethnicity of Sample (N = 64,578)

Ethnicity	%	*n*
Aboriginal		
First Nations	13.3	8,547
Métis	4.9	3,127
Inuit	0.9	590
Innu	< 0.01	1
Non-Aboriginal		
White	65.6	42,047
Black	7.8	4,977
Asian/Arab[a]	4.9	3,177
Latin American[b]	0.8	554
Other	1.6	1,015

[a]Includes Arab/West Asian, Asiatic, Chinese, East Indian, Filipino, Japanese, Korean, Southeast Asian, and South Asian.
[b]Includes Latin American and Hispanic.

Table 2

Marital Status of Sample (Percentages, with Sample Size in Parentheses)

	Total (*n* = 59,478)	Non-Aboriginal Men (*n* = 45,545)	Aboriginal Men (*n* = 10,092)	Non-Aboriginal Women (*n* = 2,463)	Aboriginal Women (*n* = 918)
Single	48.0 (28,577)	46.7 (21,282)	53.5 (5,398)	46.9 (1,155)	55.3 (508)
Married/Common-Law	41.0 (24,383)	41.7 (19,002)	40.0 (4,038)	34.8 (858)	33.7 (309)
Divorced/Separated /Widowed	11.0 (6,518)	11.6 (5,261)	6.5 (656)	18.3 (450)	11.0 (101)

Table 3 presents information on the current offence(s) of the overall sample, as well as the four main subgroups that will be examined in analyses (non-Aboriginal men, Aboriginal men, non-Aboriginal women, and Aboriginal women). Of the total sample, more than half (59%) had a non-violent offence in their current sentence, not including drug and property offences.

Additionally, 41% had a property offence. Violent offences were also common: 21% had a robbery offence, 15% had a major assault, and 25% had other violent offences. Fourteen percent of offenders had a current sex offence. The least frequent offences were for drugs (9%) and homicide (8%). Among the subgroups, the distribution of offences types was fairly similar, though generally Aboriginal offenders were more likely to have homicide, major assault, and other violent offences, and less likely to have drug offences. Women offenders were substantially less likely to have sex offences, and somewhat less likely to have major assault and other violent offences.

Table 3

Current Offence Type of Sample (Displayed as Percentages)

Current Offence	Total (n = 63,767)	Non-Aboriginal Men (n = 48,549)	Aboriginal Men (n = 11,147)	Non-Aboriginal Women (n = 2,547)	Aboriginal Women (n = 963)
Homicide	7.7	6.9	10.1	8.2	18.3
Sexual Offence	13.8	13.4	18.0	5.5	5.7
Robbery	21.2	21.5	20.8	16.5	25.6
Drug Offence	8.6	9.3	5.9	9.6	6.8
Major Assault	15.3	13.5	23.9	8.8	22.1
Other Violent	25.3	25.7	26.8	13.7	20.6
Other Non-Violent	59.2	59.5	59.5	52.1	59.1
Other Property	41.0	41.5	40.5	37.6	36.3

Note. Percentages add up to more than 100 because the categories are not mutually exclusive. The category of 'Other Non-Violent' includes the following categories of offences: morals (gaming/betting), federal and provincial traffic offences, public order offences, impaired driving, administration of justice offences, other criminal code offences, other federal statutes, municipal bylaws, and provincial offences.

Lastly, Table 4 presents the means and standard deviations for continuous descriptive variables (specifically, sentence length and age at the time of the SFA intake assessment). For sentence length, 11% of offenders had an indeterminate sentence (n = 7,166). Of those with a determinate sentence, non-Aboriginal and Aboriginal men had a similar average sentence length (3.8 and 3.9 years, respectively), while women had slightly shorter average sentence lengths (3.2 years for non-Aboriginal women and 3.1 years for Aboriginal women). For age at the time of the assessment, non-Aboriginal offenders (men and women) were, on average, 35 years of age, while Aboriginal offenders (men and women) were, on average, 32 years of age.

Table 4

Sentence Length and Age at Time of the SFA Assessment

	Determinate Sentence Length (Years)			Age		
	n	*M*	*SD*	*n*	*M*	*SD*
Non-Aboriginal Men	43,869	3.8	2.6	45,786	35.4	11.6
Aboriginal Men	9,713	3.7	2.6	10,198	31.7	10.0
Non-Aboriginal Women	2,411	3.2	1.8	24,92	35.3	10.4
Aboriginal Women	893	3.1	1.8	929	31.6	8.6
Total	57,439	3.7	2.6	59,973	34.6	11.4

Measures

Static Factors Assessment (CSC, 2012a; Motiuk, 1993)

As discussed earlier, the SFA is a 137-item structured professional judgement risk assessment scale. It has three subscales: Criminal History Record (CHR - 38 items), Offence Severity Record (OSR - 71 items), and Sex Offence History Checklist (SOHC - 28 items). In this report, only the 109 items of the CHR and OSR will be examined. Additionally, the items of the CHR are organized into three sections: Previous youth offences (15 items), previous adult offences (17 items), and current offences (6 items). The OSR is organized into 2 main sections: previous offences (36 items) and current offences (35 items). Each item is rated as "present" or "absent." See Appendix A for a listing of items that have additional information in the "help" menu of the OMS. Appendix B contains a list of all items, as well as frequencies and missing data. After rating all items, the parole officer forms an overall judgement of whether the static risk posed by the offender is low, moderate, or high. This overall judgement is also used to inform the Reintegration Potential Rating. The Static Factors Report in OMS includes total scores for each of the subscales, though this information is not formally included in any decision. Similarly, it is also possible to compute a total score for all items, which was used in the current analyses. Note that for sex offenders, their total SFA score would include the items in the SOHC. A preliminary report suggests that the SFA has some convergent validity with the SIR-R1 and Custody Rating Scale (Motiuk, 1997).

Statistical Information on Recidivism – Revision 1 (SIR-R1, Nafekh & Motiuk, 2002)

The SIR-R1 is an actuarial risk scale for general recidivism. It is derived from the General Statistical Information on Recidivism scale (Nuffield, 1982). Scores on the 15 static items therein were re-weighted based on their relationship to recidivism to obtain a total score (ranging from -30 to +27, with lower scores reflecting higher risk). Total scores are used to classify offenders into one of five risk categories: Very Poor (highest risk to reoffend), Poor, Fair, Good, and Very Good. The SIR-R1 is not used for Aboriginal or women offenders (CSC, 2012a). A recent validation found that the SIR-R1 continues to predict general and violent recidivism for non-Aboriginal men (Barnum & Gobeil, 2011a).

SIR-proxy (Nafekh & Motiuk, 2002)

For Aboriginal offenders, Nafekh and Motiuk (2002) found that a SIR-proxy measure (compiled from 15 items available in the intake assessment) significantly predicted general recidivism with Aboriginal men. Recently, the SIR-proxy has been found to have acceptable predictive accuracy for women and Aboriginal offenders, although the predictive accuracy for Aboriginal offenders is somewhat lower than for non-Aboriginal offenders (Barnum & Gobeil, 2011a). The SIR-proxy is not used in practice by CSC; thus far, it has only been examined for research purposes.

Custody Rating Scale (CRS; Luciani et al., 1996)

The CRS is a scale used to inform initial security classification decisions. It is composed of 12 items, grouped into two subscales: Institutional Adjustment (5 items) and Security Risk (7 items). Items are weighted based on empirical and policy considerations. Scores on each subscale are used to produce an overall rating of minimum, medium, or maximum security classification. Note that the results of the CRS do not always correspond with the final security classification decision, given that it comprises only one component of the classification procedure, which also involves staff's professional judgment. In this study, only the results of the CRS will be examined (i.e., the actuarial results will be examined rather than the final security classification). The most recent validations suggest the CRS continues to be an appropriate classification scale for offenders, including Aboriginal and women offenders (Barnum & Gobeil, 2011b; Gobeil, 2011).

Dynamic Factors Intake Assessment (DFIA)

The DFIA is rated for all offenders at intake (CSC, 2012a). The original DFIA consisted of 197 dichotomous indicators, organized into seven need domains: employment, marital/family, associates/social interaction, substance abuse, community functioning, personal/emotional orientation, and attitude. After rating each item, the parole officer or primary worker develops a structured professional judgement rating for each domain, on a three or four-point scale (factor seen as asset, no immediate need for improvement, some need for improvement, or considerable need for improvement; some domains do not have the first rating option). Lastly, guided by the item and domain ratings, the officer makes an overall judgement of the level of dynamic need (low, moderate, or high). The DFIA has demonstrated acceptable levels of reliability (with few exceptions) and predictive accuracy, although predictive accuracy was somewhat lower for Aboriginal offenders (Brown & Motiuk, 2005).

Following recommendations from the Brown and Motiuk (2005) review, a revised DFIA (the DFIA-R) was implemented in 2009. It has the same general structure and domains, but the total number of indicators was reduced to 100 and the rating scale for each domain has been modified. For the current study, analyses of the final dynamic rating used the low/moderate/high rating, regardless of whether the original or revised DFIA was used. Given that the scaling of the domain ratings were altered in the revision, analyses of domain ratings included only the original DFIA (the original scale was chosen because approximately 95% of offenders were scored on that version).

Procedure and Plan of Analysis

All data were obtained from OMS, which is the computerized offender file management system maintained by CSC. In addition to descriptive statistics, the analyses were conducted using Kendall's Tau correlations and the area under the curve (AUC) from receiver operating characteristic curve analyses (ROC). Kendall's Tau is a non-parametric correlation suitable for ordinal and continuous data (note that when one of the variables is dichotomous, it becomes a rank-order point biserial correlation). Correlations of .10, .30, and .50 are considered small, moderate, and large effect sizes, respectively (Cohen, 1992). To examine whether certain offender groups (e.g., violent offenders, Aboriginal offenders) are more likely to be rated high risk after controlling for item scores, logistic regression was used (Hosmer & Lemeshow, 2000). For these analyses, the dichotomous outcome variable is whether the offender was rated as high

risk on the SFA.

For analyses of the relationship between dichotomous SFA items and the overall risk category (low, moderate, high), AUCs were used. This is because point biserial correlations (parametric or non-parametric) are biased when the dichotomous variable has unequal sample sizes (e.g., Hanson, 2008; Thompson & Schumacker, 1997), unless complicated transformations are used, such as Ley's (1972) formula. Specifically, point biserial correlations are intended for data where the dichotomous item has a 50% base rate (or endorsement rate). The further the endorsement rate deviates from 50% (in either direction), the lower the correlation becomes, even if the magnitude of the relationship remains the same. This bias is particularly problematic in the current data, as the endorsement rate for SFA items varies greatly, between 0.1% and 99.7% (see Appendix B).

The AUC is an effect size statistic appropriate when one variable is dichotomous and the other is at least ordinal (Swets, Dawes, & Monahan, 2000). AUC values can vary between 0 and 1, with .500 indicating no difference in the overall SFA risk judgement based on whether the item was present. An AUC value less than .500 indicates that the presence of the item is associated with a lower overall risk rating, and AUC values between .500 and 1 indicate the item is associated with a higher risk rating. As a rough heuristic, an AUC of .560 corresponds to a small effect size, while .640 reflects a moderate effect, and .710 reflects a large effect size, as these values roughly correspond to Cohen's *d*s of .2, .5, and .8 (see Rice & Harris, 2005). Conversely, AUC values of .440, .360, and .290 reflect small, moderate, and large effect sizes in the opposite direction. An AUC value is statistically significant if the 95% confidence interval does not include .500.

Given the large sample sizes, nearly all analyses (including very small effect sizes) were statistically significant (this would also be expected based on the design of the scale, where items are intended to be related to overall risk decisions). As such, interpretation of findings primarily focused on the magnitude of effect sizes. Specifically, small effect sizes (r's < .10 and AUCs between .441 and .559) were considered non-meaningful relationships. Additionally, given the high statistical power and the assumption that most analyses should find an effect (i.e., items should be related to overall ratings, overall ratings should be related to other risk measures), non-significant findings were generally considered unexpected and indicative that the scale is not functioning as intended.

Additionally, given the large time span of the current study (from 1997 to 2012), we explored differences in results over time (analyses not reported). The sample was divided into two cohorts: old (data from 1997 to 2004; 50.5% of cases) and new (2005 to 2012; 49.5% of cases). The primary analyses were examined separately for the two cohorts and were remarkably similar. This suggests that how the SFA is being used has not meaningfully varied over time. As such, it was considered appropriate to combine the data from all years.

Results

Appendix A lists all items of the SFA (grouped by subscale) as well as data on missing information and endorsement rates. For the 109 individual items, data were missing for up to 11.0% of assessments; however, the median amount of missing data was 0.3%, reflecting low levels of missing information for the items. Only 7 items had more than 5% missing information: disciplinary reports in secure custody youth facility (7.6%), serious psychological harm to prior victims (11.0%), moderate psychological harm to prior victims (10.7%), mild psychological harm to prior victims (9.9%), serious psychological harm to current victim (5.5%), moderate psychological harm to current victim (5.5%), and threatening victim of previous offence with a weapon (5.2%). The pattern of missing data suggests evaluators feel less able to evaluate psychological harm to victims compared to other SFA items.

Endorsement rates on the items (i.e., the proportion that were scored as "present" for an item) ranged between 0.2% and 99.7%. The median endorsement rate was 18.6%, reflecting that for most items, only a minority of offenders were scored as having the factor present.

Of the 64,604 assessments examined, 16.4% of offenders were rated as low risk, 41.6% were rated as moderate risk, and 42.0% were rated as high risk. Differences in overall ratings, total scores, and subscale scores were examined for certain subgroups. Tables 5 and 6 present comparisons for offenders based on their index offence type. Offenders were classified as either non-violent (given that the definition of 'violent' in the current data was restricted to serious violent offences, some offenders classified as 'non-violent' would have had minor violent offences in their sentence as well), serious non-sexually violent (i.e., committed either a major assault or homicide offence but no sexual offence; referred to as serious violent offenders hereafter), or as a sexual offender (i.e., had a previous or current conviction for a sex offence or sex-related offence). As can be seen in Table 5, 31% of non-violent offenders were classified as high risk, whereas 59% of serious violent offenders and 62% of sex offenders were rated as high risk. The correlation between being a sex offender and the overall risk rating was .192 (n = 64,604, $p < .001$), and the correlation between being a serious violent offender and the overall risk rating was .180 (n = 63,766, $p < .001$). In other words, sex offenders and violent offenders were more likely to be higher risk. Examining their subscale scores (Table 6), non-violent and serious violent offenders had the same mean score on the CHR subscale (M = 14), which was

slightly higher than the mean scores for sex offenders (*M* = 12). For offence severity, serious violent offenders had the highest mean scores (*M* = 19), followed closely by sex offenders (*M* = 18), with non-violent offenders showing notably lower offence severity scores (*M* = 12). Summing all indicators of the SFA, sex offenders had the highest average scores (*M* = 40), followed by serious violent offenders (*M* = 33), and non-violent offenders (*M* = 26). The higher total scores for sex offenders is the result of the additional 28 items that are rated as part of the SOHC, which are not applicable to non-sex offenders.

Logistic regression analyses were used to determine whether serious violent offenders and sex offenders are more likely to be rated high risk after controlling for their total scores on

Table 5

Overall SFA Rating for Total Sample and by Index Offence Type

	Non-Violent Offenders % (*n*)	Serious Non-Sexual Violent Offenders % (*n*)	Sex Offenders % (*n*)
Low Risk	22.5 (9,048)	5.8 (700)	6.6 (771)
Moderate Risk	46.7 (18,828)	35.0 (4,241)	30.9 (3,588)
High Risk	30.8 (12,408)	59.2 (7,177)	62.5 (7,263)
Total	100.0 (40,284)	100.0 (12,118)	100.0 (11,622)

Table 6

SFA Subscale and Total Scores by Offence Type

	Non-Violent Offenders *M* (*SD*)	Serious Non-Sexual Violent Offenders *M* (*SD*)	Sex Offenders *M* (*SD*)
CHR	13.9 (7.3)	13.9 (7.6)	12.3 (7.1)
OSR	11.7 (7.4)	19.4 (7.3)	18.4 (7.7)
SFA Total (Sum of Items)	25.6 (12.6)	33.2 (12.9)	39.8 (13.9)

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SOHC = Sex Offence History Checklist

the SFA. This would suggest that their disproportionately high risk ratings are due to more than just the risk factors in the SFA. After controlling for the sum of all CHR and OSR items, serious violent offenders are significantly more likely to be rated as high risk on the SFA, with an odds ratio (OR) of 2.0 (95% CI of 1.9 to 2.1). In other words, assuming the same number of static riskfactors, the odds of being declared high risk are two times higher for serious non-sexual violent offenders compared to all other offenders. Similarly, after controlling for the sum of OSR and CHR items, the odds of a sex offender being declared high risk are 2.6 times higher than non-sex offenders (95% CI of 2.5 to 2.8), which was statistically significant. However, sex offenders are rated differently on the SFA because there are an additional 28 items that apply to them. If you control for the sum of all SFA items (with a different possible total score for sex offenders and non-sex offenders), sex offenders are still significantly more likely to be rated high risk, although the magnitude of this effect is substantially decreased (OR = 1.2, 95% CI of 1.1 to 1.2).

Tables 7 and 8 compare the SFA results for Aboriginal and non-Aboriginal offenders. Aboriginal offenders were substantially more likely to be rated high risk compared to non-Aboriginal offenders (59% versus 38%, respectively). The correlation between being Aboriginal and the overall risk rating was .177 (n = 64,034, p < .001). Aboriginal offenders had higher scores for the CHR and OSR sections, as well as a higher total score overall. After controlling for the total score on all SFA items, the odds of being rated high risk were 1.3 times higher for Aboriginal offenders compared to non-Aboriginal offenders (95% CI of 1.2 to 1.3), which was statistically significant.

Table 7

Overall SFA Rating by Aboriginal Ancestry

	Non-Aboriginal Offenders % (*n*)	Aboriginal Offenders % (*n*)
Low Risk	18.8 (9,728)	6.2 (765)
Moderate Risk	43.3 (22,403)	34.4 (4,223)
High Risk	37.9 (19,638)	59.3 (7,227)
Total	100.0 (51,769)	100.0 (12,265)

Table 8

SFA Subscale and Total Scores by Aboriginal Ancestry

	Non-Aboriginal Offenders *M* (*SD*)	Aboriginal Offenders *M* (*SD*)
CHR	12.9 (7.3)	16.6 (7.0)
OSR	13.4 (7.9)	18.2 (8.2)
SFA Total (Sum of Items)	27.9 (13.7)	36.9 (13.5)

Note. CHR = Criminal History Record; OSR = Offence Severity Record. The SFA total includes items from the CHR, OSR, and the Sex Offence History Checklist.

Tables 9 and 10 compare the SFA results for men and women. Women offenders were half as likely as men to be rated high risk (21% versus 43%, respectively). The correlation between being a woman and the overall risk rating was -.135 (n = 64,604, $p < .001$). Women offenders had lower scores for all subscales, and for the total score. After controlling for the total score on all SFA items, the odds of being rated high risk were 1.6 times higher for men compared to women offenders (95% CI of 1.4 to 1.7), which was statistically significant.

Table 9

Overall SFA Rating by Gender

	Men % (*n*)	Women % (*n*)
Low Risk	15.1 (9,224)	39.0 (1,409)
Moderate Risk	41.6 (25,395)	40.3 (1,456)
High Risk	43.2 (26,374)	20.7 (746)
Total	100.0 (60,993)	100.0 (3,611)

Table 10

SFA Subscales and Total Score by Gender

	Men *M* (*SD*)	Women *M* (*SD*)
CHR	13.8 (7.4)	10.2 (6.9)
OSR	14.6 (8.2)	10.5 (7.5)
SFA Total (Sum of Items)	30.1 (14.0)	20.9 (12.5)

Note. CHR = Criminal History Record; OSR = Offence Severity Record. The SFA total includes items from the CHR, OSR, and the Sex Offence History Checklist.

Convergent Validity

Table 11 presents data on the convergent validity of the SFA with the SIR-R1, SIR-Proxy, and the CRS (as well as its two subscales). The overall SFA rating showed convergent validity (moderate effect sizes) with the SIR-R1, SIR-proxy, CRS, and CRS subscales. Specifically, higher ratings on the SFA were associated with lower scores on the SIR-R1 and SIR-Proxy (reflecting higher risk) and higher ratings on the CRS and its subscales. Similar results were found for the SFA total score, though the correlations tended to be a bit higher, particularly for the SIR-R1 and SIR-proxy. This suggests that the sum of the items may be more strongly related to risk of recidivism than the overall judgement.

Table 11

Convergent Validity Analyses: Correlations for Total Sample

	SIR-R1	SIR-Proxy	CRS	CRS – Institutional Adjustment	CRS – Security Risk
SFA Summary Rating	**-.32 (49,762)**	**-.38 (46,427)**	**.33 (63,889)**	**.32 (63,908)**	**.30 (63,908)**
CHR	**-.66 (49,760)**	**-.73 (46,427)**	**.29 (63,887)**	**.43 (63,906)**	**.26 (63,906)**
OSR	**-.22 (49,763)**	**-.31 (46,427)**	**.33 (63,889)**	**.27 (63,908)**	**.32 (63,908)**
SFA Total Score	**-.42 (49,763)**	**-.52 (46,427)**	**.32 (63,890)**	**.35 (63,909)**	**.30 (63,909)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

When examining the specific subscales of the SFA, the CHR showed particularly good convergent validity with the SIR-R1 and SIR-Proxy. Correlations with the CRS were more moderate – notably, convergent validity was higher with the institutional adjustment subscale than the security risk subscale. The OSR showed notably lower correlations with the SIR-R1 and SIR-proxy than did the CHR, and similar overall convergent validity with the CRS. In contrast to the CHR, the OSR was more strongly related to the security risk subscale of the CRS than the institutional adjustment subscale.

Tables 12 through 15 present the same analyses for each of the four main subgroups (non-Aboriginal men, Aboriginal men, non-Aboriginal women, and Aboriginal women). For Aboriginal and women offenders, however, the SIR-R1 is omitted (as it is not used for these groups). For non-Aboriginal men (Table 12), the findings were similar to the overall results. For Aboriginal men (Table 13), the overall pattern was the same, although all correlations were smaller than the ones from the overall sample (presented in Table 11).

For non-Aboriginal women offenders (Table 14), the findings were very similar to the overall group, with a few exceptions. The CHR and SFA total score were still significantly correlated with the CRS, but not as strongly as for non-Aboriginal men. Interestingly, the SIR-proxy was more strongly related to the SFA (and each subscale) than for non-Aboriginal men. Additionally, the OSR was notably more strongly related to the CRS than was the CHR. For Aboriginal women (Table 15), the findings were similar, although the correlations

Table 12

Convergent Validity Analyses: Correlations for Non-Aboriginal Men

	SIR-R1	SIR-Proxy	CRS	CRS – Institutional Adjustment	CRS – Security Risk
SFA Summary Rating	**-.32 (48,132)**	**-.36 (35,805)**	**.32 (48,720)**	**.32 (48,735)**	**.29 (48,735)**
CHR	**-.66 (48,131)**	**-.73 (35,805)**	**.29 (48,719)**	**.44 (48,734)**	**.25 (48,734)**
OSR	**-.22 (48,133)**	**-.29 (35,805)**	**.32 (48,721)**	**.26 (46,736)**	**.31 (48,736)**
SFA Total Score	**-.42 (48,133)**	**-.50 (35,805)**	**.32 (48,721)**	**.36 (48,736)**	**.30 (48,736)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table 13

Convergent Validity Analyses: Correlations for Aboriginal Men

	SIR-Proxy	CRS	CRS – Institutional Adjustment	CRS – Security Risk
SFA Summary Rating	**-.28 (7,645)**	**.24 (11,127)**	**.21 (11,130)**	**.22 (11,130)**
CHR	**-.64 (7,645)**	**.23 (11,127)**	**.34 (11,130)**	**.18 (11,130)**
OSR	**-.22 (7,645)**	**.24 (11,126)**	**.16 (11,129)**	**.25 (11,129)**
SFA Total Score	**-.42 (7,645)**	**.25 (11,127)**	**.23 (11,130)**	**.24 (11,130)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table 14

Convergent Validity Analyses: Correlations for Non-Aboriginal Women

	SIR-Proxy	CRS	CRS – Institutional Adjustment	CRS – Security Risk
SFA Summary Rating	**-.42 (2,007)**	**.31 (2,525)**	**.30 (2,526)**	**.29 (2,526)**
CHR	**-.75 (2,007)**	**.15 (2,524)**	**.39 (2,525)**	**.16 (2,525)**
OSR	**-.32 (2,007)**	**.35 (2,525)**	**.30 (2,526)**	**.35 (2,526)**
SFA Total Score	**-.61 (2,007)**	**.28 (2,525)**	**.40 (2,526)**	**.29 (2,526)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table 15

Convergent Validity Analyses: Correlations for Aboriginal Women

	SIR-Proxy	CRS	CRS – Institutional Adjustment	CRS – Security Risk
SFA Summary Rating	**-.37 (670)**	**.25 (962)**	**.29 (962)**	**.24 (962)**
CHR	**-.74 (670)**	**.17 (962)**	**.27 (962)**	**.15 (962)**
OSR	**-.34 (670)**	**.24 (962)**	**.22 (962)**	**.23 (962)**
SFA Total Score	**-.60 (670)**	**.24 (962)**	**.28 (962)**	**.22 (962)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

tended to be lower than those for non-Aboriginal women or non-Aboriginal men (with the

exception of the SIR-proxy, which still retained moderate to strong correlations with the SFA).

Relationship Between Static and Dynamic Risk

The relationship between the SFA and dynamic need ratings was also examined (see Table 16). The relationship between the overall SFA rating and the overall dynamic need rating (using either the original or revised DFIA) was large. The overall dynamic rating was also moderately related to the CHR, OSR, and the sum of all SFA items. SFA overall ratings (as well as the subscales) were not meaningfully related to any of the specific dynamic need domains (assessed with the original DFIA scale), with the exception of employment, which had a small relationship with the overall SFA rating, CHR, and the sum of the SFA items. Additionally, there was a small relationship between substance abuse and the CHR. Appendix C includes the analyses separated by gender and Aboriginal ancestry. The results were largely similar for all subgroups, with a tendency for slightly lower correlations for Aboriginal offenders (men or women).

Face Validity: Relationships Between Items, Subscales, and Overall Judgement

Given the policy for how the SFA should be rated, the expectation is that all items and subscales should be related to the overall judgement. The size of the relationships may vary, given that the purpose of SPJ is that some items may be weighted more heavily than others depending on the circumstances; nonetheless, items should demonstrate at least some relationship to the overall judgement (otherwise they do not inform the professional judgement). Table 17 presents how the subscales (and the sum of all SFA items) correlate with the overall judgement for the overall sample, as well as subgroups. Presumably, higher correlations indicate that the evaluators gave those areas more weight in their overall decision (consciously or unconsciously). The CHR and OSR were moderately related to the overall SFA rating. Evaluators seemed to weight offence severity a bit more heavily than criminal history; this could also be because the OSR has about twice as many items as the CHR. Notably, the CHR and OSR themselves were moderately correlated ($r = .31$, $p < .001$, $n = 64{,}601$). Lastly, the sum of all items showed a strong relationship with the overall judgement, suggesting general face validity for the scale. In other words, offenders with more risk factors are generally rated as higher risk.

Table 16

Correlation Between SFA and Dynamic Factors: Total Sample

	SFA Overall	CHR	OSR	SFA Total
Dynamic Overall	**.51 (63,722)**	**.36 (63,721)**	**.36 (63,723)**	**.42 (63,723)**
Employment	**.11 (61,065)**	**.19 (61,064)**	**.07 (61,066)**	**.12 (61,066)**
Marital/Family	**.06 (60,150)**	**.07 (60,149)**	**.06 (60,150)**	**.07 (60,151)**
Associates	**.03 (60,375)**	**.06 (60,374)**	**.02 (60,375)**	**.04 (60,376)**
Substance Abuse	**.07 (62,942)**	**.11 (62,941)**	**.05 (62,942)**	**.08 (62,943)**
Community Functioning	**.07 (59,985)**	**.08 (59,984)**	**.05 (59,985)**	**.07 (59,986)**
Personal/Emotional	**.07 (62,699)**	**.06 (62,698)**	**.06 (62,699)**	**.07 (62,700)**
Attitude	**.06 (60,159)**	**.06 (60,158)**	**.04 (60,159)**	**.06 (60,160)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table 17

Overall SFA Rating: Correlation with Subscales

Overall SFA Rating	CHR	OSR	SFA Total (Sum of Items)
Total Sample	**.39 (64,601)**	**.46 (64,603)**	**.52 (64,604)**
Sex Offenders	**.32 (11,621)**	**.37 (11,622)**	**.40 (11,622)**
Serious Violent Offenders	**.25 (12,118)**	**.33 (12,118)**	**.34 (12,118)**
Non-Violent Offenders	**.51 (40,282)**	**.43 (40,283)**	**.55 (40, 284)**
Non-Aboriginal Men	**.37 (49,188)**	**.44 (49,190)**	**.50 (49,190)**
Aboriginal Men	**.29 (11,290)**	**.38 (11,289)**	**.48 (11,290)**
Non-Aboriginal Women	**.40 (2,578)**	**.48 (2,579)**	**.53 (2,579)**
Aboriginal Women	**.37 (975)**	**.43 (975)**	**.48 (975)**

Note. Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

The pattern was generally similar for the subgroups that were examined. Comparing sex offenders, serious violent offenders, and non-violent offenders, it appeared as though the CHR, OSR, and the sum of all items have a stronger influence on the overall rating for non-violent offenders (i.e., evaluators are exercising greater discretion in their ratings for violent and sex offenders, or they are more strongly influenced by factors external to the SFA). Similarly, the correlations were lower for Aboriginal offenders (men or women) compared to non-Aboriginal

offenders, suggesting that evaluators are weighting the SFA items less heavily for Aboriginal offenders. For women offenders generally, the relationships were similar to the overall sample. In fact, the correlations were in the negative direction, suggesting that the presence of more risk factors resulted in judgements of lower overall risk.

Relationship between items and overall judgement

Appendix D presents the relationship between the 109 dichotomous items and the overall SFA rating (expressed as AUC values) for the overall sample, as well as separated by gender and Aboriginal ancestry. Table 18 summarizes the relationships in Appendix D. For the overall sample, both the CHR and OSR subscales had moderate median effect sizes, indicating that at least half the items in the subscales had moderate or large relationships with the overall summary judgement.

Table 18

Summary of AUC Values for the Relationship Between Items and Overall Ratings

	CHR		OSR	
Group	Median	Range	Median	Range
Total	.666	.512 - .704	.651	.186 - .744
Non-Aboriginal Men	.662	.521 - .707	.659	.221 - .742
Aboriginal Men	.600	.469 - .657	.597	.296 - .709
Non-Aboriginal Women	.698	.477 - .800	.712	.221 - .874
Aboriginal Women	.662	.319 - .760	.644	.094 - .791

Given the high statistical power with such a large sample size, only 3 of the 109 items (3%) had non-significant relationships with the overall SFA judgement. These items were: one current conviction (CHR), previous offence for drug cultivation (OSR), and previous offence for drug importation (OSR). Although some were statistically significant, items were considered to have a non-meaningful relationship with the overall risk rating if the AUC values ranged between .441 and .559, inclusively. Of the 38 items in the CHR, only 6 (16%) had a non-meaningful relationship with the overall rating; these were the 6 items pertaining to the current offence (5 variables examining the number of current convictions, and 1 to denote whether there was a current conviction for a scheduled offence). Of the 71 items in the OSR, only 5 (7%) had

non-meaningful relationships with the overall rating: these included previous offence for drug cultivation, previous offence for drug trafficking, previous offence for drug importation, current serious offence, and current offence for arson/fire-setting. Interestingly, the three drug-trade offences (cultivation, trafficking, and importation) appeared to have no meaningful influence on the overall rating if they formed part of the offence history, but when they were part of the current offences, they were associated with meaningfully lower overall risk ratings.

Additionally, of the 109 items, 4 had a meaningful and significant negative relationship with the overall risk judgement. These items were: current offence for drug cultivation (CHR; AUC = .326), current offence for drug trafficking (CHR; AUC = .319), current offence for drug importation (CHR; AUC = .186), and current offence for conspiring to commit any of the above offence (CHR; AUC = .439). In other words, the endorsement of these items was associated with a lower overall risk rating.

The remaining items (84% of the CHR items and 93% of the OSR items) were significantly and meaningfully related to the overall SFA risk rating. This suggests that the items in the CHR and OSR scales are generally influencing the overall judgement. Of the 109 items, 14 demonstrated a large relationship with the overall rating. These items were all from the OSR: previous offences, previous serious offences, previous violent offence, previous victims were handicapped/infirm, three or more previous victims, two or more previous victims, one previous victim, threat of violence to previous victims, threaten previous victim with weapon, weapon used against previous victim, serious psychological harm to previous victims, moderate psychological harm to previous victims, mild psychological harm to previous victims, current drug importation offence (inverse relationship). Together, analytic results for these items suggest that there is a strong tendency for offenders with prior violent offences to be rated higher risk, and offenders with current drug importation offences to be rated lower risk.

Subgroup analyses

Rather than discuss all findings for the subgroups, only notable differences from the general pattern will be highlighted (see Table 18 and Appendix D for further information). Findings for non-Aboriginal men follow the same patterns as the overall results. This finding is not surprising, given that this group constitutes the majority of cases in the overall analyses. For Aboriginal men, the median effect sizes for items in the CHR and OSR subscales were notably lower than for non-Aboriginal men. Specifically, of all 109 AUCs, 100 of them (92%) were

lower for Aboriginal men, which is higher than would be expected by chance (e.g., by chance, if there were no difference, you would expect 50% of them to be lower for Aboriginal offenders and 50% higher). Notably, none of the effect sizes for Aboriginal men were large. This suggests evaluators are weighting the SFA items less heavily in their overall judgement for Aboriginal men.

For non-Aboriginal women, the evaluators tended to weight the items more heavily in their overall judgement than for men (Aboriginal or non-Aboriginal). For the CHR and OSR, the median effect sizes were notably larger. Overall, 96 of the 108 items (89%) had higher AUC values for non-Aboriginal women compared to the overall results.[2] Additionally, there were many more large effect sizes for non-Aboriginal women: 16 in the CHR (42%) and 38 in the OSR (54%). It appears that roughly half the SFA items were strongly related to the overall judgement of risk for non-Aboriginal women offenders. For Aboriginal women offenders, the effect sizes were slightly lower than for non-Aboriginal women, but very comparable to the overall findings.

Summary

From the overall sample, 16% of offenders are rated low risk on the SFA, 42% are rated moderate risk, and 42% are rated high risk. Serious violent offenders, sex offenders, Aboriginal offenders, and men are all more likely to be rated high risk than their counterparts (i.e., non-violent offenders, non-sex offenders, non-Aboriginal offenders, and women offenders, respectively). This pattern remains true even after controlling for the items in the SFA.

The SFA overall risk rating and the sum of all SFA items are related to ratings on the SIR-1, SIR-Proxy, as well as the CRS and its subscales. The CHR subscale of the SFA showed particularly good convergent validity with the SIR-R1 and SIR-Proxy. The overall SFA rating was moderately related to the overall dynamic risk rating, suggesting that high risk offenders are also high need offenders. However, the relationship with any individual dynamic domain was small.

As expected, and following the intent of the scale, the CHR and OSR subscales were moderately related to the overall SFA rating, suggesting face validity. The OSR subscale seemed to be weighted a bit more heavily compared to the CHR. Also as expected, most of the SFA items are related to overall risk judgements. More than half of the CHR and OSR items

[2]One item could not be examined because no women offenders had it scored as “present”.

show a moderate or large relationship with the overall risk rating (and the vast majority had at least a small relationship with the risk rating). The relationship between the items and the overall risk rating tended to be lower for Aboriginal men and higher for non-Aboriginal women offenders. For Aboriginal women offenders, the findings were similar to the overall group.

Discussion

Periodically evaluating and updating risk scales is essential to reflect knowledge advancement and ensure appropriate assessment practices (Dawes et al., 1989). The current study examined the construct validity of the Static Factors Assessment to determine if the scale is functioning as intended. In other words, are the items and subscales influencing the overall ratings, and are the subscales and overall ratings related to other risk measures utilized by CSC? Synthesizing the results, our conclusions are that the CHR and OSR are largely functioning as intended. For the most part, the items of the CHR and OSR are influencing the overall risk summary. Additionally, the SFA risk summary (as well as the subscales) are related to ratings on other risk measures, such as the SIR-R1, SIR-proxy, and the CRS (including its two subscales: Institutional Adjustment and Security Risk). The finding that the OSR was more strongly related to the Security Risk subscale of the CRS than the CHR makes sense given that this subscale of the CRS includes items related to public risk (e.g., offence severity). These findings are similar to Motiuk's (1997) preliminary examination of the construct validity of the SFA. The CHR, OSR, and overall SFA rating also showed convergent validity with the overall dynamic need rating. This suggests high risk offenders are likely to be high needs offenders.

The encouraging findings for the OSR scale were a bit unexpected. Offence severity has been found to be inversely related to recidivism (e.g., Quinsey et al., 2006), yet the OSR items showed good relationships with the overall SFA ratings and converged with other risk measures. Closer examination of the content of the OSR scale, however, suggests that the majority of the items may be measuring criminal diversity more than offence severity. This would explain the convergent validity, given that criminal diversity is a good predictor of recidivism (e.g., the criminal versatility item of the Psychopathy Checklist-Revised; Hare, 2003).

The findings for the CHR, OSR, and overall risk ratings generalized well for women offenders, but most effect sizes tended to be lower for Aboriginal men. More specifically, SFA items were related to overall SFA risk ratings for Aboriginal men, but not as strongly. Also, the subscale scores and overall SFA risk ratings showed similar patterns of convergent validity as the overall sample, but not quite as strongly. Findings for Aboriginal women offenders tended to be weaker than non-Aboriginal women, but given the overall strong findings for women, the findings for Aboriginal women offenders were comparable to the overall group.

Taken together, these results suggest that when assessing Aboriginal offenders, evaluators are giving less consideration to the items of the SFA. The impact of this finding can be examined in two ways. First, preliminary meta-analyses have suggested that many risk factors, particularly criminal history, may be less predictive of recidivism for Aboriginal offenders (Babchishin, Blais, & Helmus, 2012; Gutierrez, Wilson, Rugge, & Bonta, 2013). If the items of the SFA do not predict as well for Aboriginal offenders, then it would be appropriate that evaluators are less influenced by these factors in their overall judgement. However, it is also possible that evaluators are giving less weight to the individual indicators because they are basing their decisions on factors outside the scope of the SFA. While this may be appropriate (e.g., if they are considering pertinent factors such as those linked to social history), it is also possible that inappropriate factors are being considered, and that evaluators are thereby potentially making more biased decisions. The possibility of bias in decision-making cannot be ruled out, particularly given that Aboriginal offenders were substantially more likely to be rated high risk on the SFA, even after controlling for the SFA items. A fuller understanding of how the SFA is working among Aboriginal offenders requires research on how it relates to outcomes (e.g., reoffending), which is currently underway.

Similarly, the results also suggest that the SFA items receive less weight in the decisions made for sex offenders and serious violent offenders. Both the CHR and OSR appeared to have a lower influence on overall ratings for these groups than they did for non-violent offenders. Also, sex offenders and serious violent offenders are much more likely to be rated high risk. This could be partly because the SOHC and OSR subscales include the types of items that mean that serious violent offenders and sex offenders have more items endorsed and are therefore more likely to be assessed as higher risk. However, given that sex offenders and serious violent offenders were more likely to be rated high risk even after controlling for the SFA total scores, it is also possible that evaluators are giving these offenders higher risk ratings simply because they are serious violent or sex offenders (i.e., offence severity associated with sexual and serious violent offences, even after controlling for SFA scores, is having a strong influence on their judgement). This may be problematic given that offence severity with respect to level of injury to the victim among violent offenders is inversely related to recidivism (Quinsey et al., 2006). However, it is also important to note that a violent criminal history has been found to be an important predictor of violent recidivism (Bonta, Law and Hanson, 1998; Monahan, 1977).

Research also suggests that sex offenders have among the lowest recidivism rates of any offender type (Langan & Levin, 2002) and substantially lower recidivism rates than the public generally believes (Levenson, Brannon, Fortney, & Baker, 2007).

Recommendations and Comments on the SFA

The current study provides much-needed information on the construct validity of the SFA. However, firm recommendations about possible revisions to the scale require further knowledge of the scale's utility in relation to outcomes, such as release decisions and reoffending. Fortunately, such a study is presently underway. In the interim, however, it is possible to use the findings of the current study to suggest potential areas of improvement for the scale.

The sum of all SFA items showed better convergent validity with the SIR-R1, SIR-proxy, and the CRS Institutional Adjustment subscale than the summary risk rating. This raises the issue of whether a total score would be more useful than a summary risk rating. Consideration of this question, however, would require comparisons of the two methods in terms of their relationship to outcomes, as well as other considerations (e.g., the need for flexible decision-making).

This study also suggests that certain items in the CHR and OSR subscales may be candidates for removal or modification, depending on the results of future research. Specifically, the CHR has a section for the current offence (six items) and these items had non-meaningful relationships with the overall SFA risk rating. If these items do not provide unique information in relation to outcomes, they could potentially be removed from the scale. Additionally, the three items assessing drug trade offences in the current sentence (cultivation, trafficking, and importation) and the item for current offences for conspiring were significantly and meaningfully related to lower risk ratings, which is counter to the intended use of the scale. To simplify and improve construct validity, these items could be removed or scored inversely. Additionally, the patterns of missing data suggest that evaluators are less able to assess the psychological harm to victims, although when they assessed this harm as present, it had a strong relationship to their overall risk rating. These items could also be candidates for removal given the difficulty in scoring them, or perhaps more structured scoring guidelines could be developed.

Although most of the other items were significantly and meaningfully related to the overall risk ratings, it is possible that they do not all need to be retained in the scale. Most risk

assessment scales have substantially fewer items than the SFA; it is unlikely that all items will add uniquely in considering risk of recidivism. It may be possible to eliminate many items (saving time for correctional staff) without sacrificing the utility of the scale. Also, some items could be combined to improve efficiency (e.g., combining drug trade items, or combining many of the offence type items into a single criminal versatility item).

It is important to note that any decisions to revise the SFA should consider not only the results of this study and the upcoming research project, but also any operational concerns. For example, it is possible that the information contained in some of the items are important for other decision-making purposes and eliminating them could have unanticipated consequences. If this is the case, it would be possible to explore the option of removing the items from the consideration of static risk, but including them elsewhere.

Limitations

Although this study provided a large and comprehensive analysis of the SFA, there are some limitations as well. As already alluded to, firm conclusions about the utility of the SFA cannot be made without information on its relationship to outcomes (e.g., release decisions and reoffending). Additionally, given the nature of structured professional judgement scales (i.e., that the final SFA rating is at the discretion of the evaluator), it is impossible to really know which items were considered and how they were weighted. The effect sizes indicate that the items and subscales are related to the overall rating, but without direct access to the cognitive processes of evaluators, other explanations cannot be ruled out. For example, it is possible that the evaluators based their decisions on completely different factors that happened to be correlated with the SFA items. Thus, it cannot be said with certainty whether the evaluators are in fact using the scale as intended (i.e., using the individual item ratings to guide their overall judgement) or if their decisions are merely converging with the item content.

Additionally, this study was unable to examine the quality or reliability of the SFA ratings. The data relied on the ratings completed by the staff, with no means to verify their accuracy. For example, we could not examine interrater reliability. Compounding the issue of data quality, little guidance is available to evaluators. There are no explicit coding rules for these items and only 11 of the items have any additional text available in the “help” menu of OMS, and the information that is available is not particularly detailed. Informal consultations with experienced users of the SFA identified concerns that the scale is not being used consistently and

there is a lack of clarity about whether certain items should be subsumed under others. For example, if serious psychological harm was present, should the evaluator also answer "yes" for the lesser categories of moderate and mild psychological harm? This would seem to be the case given that the presence of more items is intended to reflect greater risk (otherwise, mild and serious psychological harm would be considered equivalent). However, examination of the item ratings suggested that evaluators are not consistently checking off the subsumed categories of mild and moderate harm when serious harm is indicated.

Examination of item ratings also identified other illogical scorings suggesting either a lack of clarity about the constructs measured, or that evaluators were not being sufficiently conscientious. For example, a small portion of offenders who were scored as having a previous attempted murder offence were scored as *not* having a previous violent offence. Additionally, a few offenders with a homicide or attempted murder offence were scored as having no victims or as not causing serious injury to victims. These observations suggest that the quality of the SFA ratings is far from perfect. This noise in the data would serve to weaken the effect sizes being measured. Unfortunately, the current study was not in a position to more fully evaluate the quality and reliability of the SFA ratings. Future research should examine this issue in more detail, and ideally develop more clear coding rules for the items.

Conclusions

This is the first large study to examine the construct validity of the Static Factors Assessment, and notably the first study on the topic since Motiuk's (1997) preliminary examination of the SFA. Although the study is limited in its scope (i.e., could not examine the reliability and quality of the data) and interpretation (i.e., the results do not necessarily mean that evaluators are consciously basing their assessments on the SFA items), the results generally suggest that the SFA is largely functioning as intended. That is, ratings on the items from the CHR and OSR are related to overall risk ratings (with few exceptions), and the subscales and summary risk ratings are related to other risk measures. This was true of Aboriginal and women offenders as well, although findings tended to be not as strong for Aboriginal men. Future research is needed to examine how the SFA is related to outcomes (e.g., release decisions and reoffending) and explore whether the length of the scale can be reduced without any meaningful loss to its utility.

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Appendices

Appendix A: Additional "Help" Text in OMS for SFA Items

Item #	Item	"Help" Text in OMS
	Criminal History Record	
	Previous Offences – Youth Court	
7	Scheduled convictions?	Offence(s) appears on Schedule I or II of CCRA
	Previous Offences – Adult Court	
32	No crime free period of one year or more?	If offender has no crime free periods of one year or more, indicate "yes"
	Offence Severity Record	
	Previous Offences	
2	Previous serious offences?	Offence caused death or serious harm or was a serious drug offence
11	Sexual offences?	Offence had sexual connotations i.e., sexual offence resulted in conviction for murder, B&E
35	Sentence length 5 to 9 years?	Includes sentences up to 10 years less a day
36	Sentence length 1 day to 4 years?	Includes sentences up to 5 years less a day
	Current Offences	
37	Current serious offences?	Offence caused death or serious harm or was a serious drug offence
46	Sexual offences?	Offence had sexual connotations i.e., sexual offence resulted in conviction for murder, B&E

Appendix B: SFA Item Endorsement Rates and Missing Data

Item #	Item	*n* missing	% missing	% present
	Criminal History Record (*N* = 64,605)			
	Previous Offences – Youth Court			
1	Previous offences in youth court?	481	0.7	43.0
2	15+ convictions?	1,568	2.4	6.6
3	10-14 convictions?	1,600	2.5	11.4
4	5-9 convictions?	1,638	2.5	20.7
5	2-4 convictions?	1,672	2.6	33.7
6	1 conviction?	1,676	2.6	41.6
7	Scheduled convictions?	1,180	1.8	18.6
8	Dispositions – community supervision?	1,121	1.7	36.2
9	Dispositions – Open custody?	1,219	1.9	23.5
10	Dispositions – Secure custody?	1,141	1.8	24.3
11	Failure during community-based supervision?	2,154	3.3	24.5
12	Disciplinary transfers from open to secure?	3,156	4.9	5.0
13	Disciplinary reports while in secure custody?	4,909	7.6	7.3
14	Attempt escape/UAL/escape from secure custody?	2,233	3.4	5.5
15	Transfer from secure custody to adult facility?	1,717	2.6	1.9
	Previous Offences – Adult Court			
16	Previous offences in adult court?	62	< 0.1	80.6
17	15+ convictions?	106	0.2	30.6
18	10-14 convictions?	108	0.2	41.4
19	5-9 convictions?	112	0.2	57.6
20	2-4 convictions?	123	0.2	73.0
21	1 conviction?	126	0.2	80.4
22	Scheduled convictions?	193	0.3	55.5
23	Sanctions – Community supervision?	184	0.3	70.3
24	Sanctions – Provincial terms?	133	0.2	66.3
25	Sanctions – Federal terms?	94	0.1	22.8
26	Failure during community-based supervision?	592	0.9	55.8
27	Segregation for disciplinary infractions?	2,829	4.4	25.6
28	Attempt escape/UAL/escapes?	400	0.6	20.7

Table continues on next page

Appendix B continued

Item #	Item	*n* missing	% missing	% present
29	Reclassified to higher levels of security?	1,401	2.2	14.1
30	Failures on conditional release?	631	1.0	36.4
31	Less than 6 months since last incarceration?	177	0.3	20.6
32	No crime free period of one year or more?	212	0.3	15.7
	Current Offences			
33	15+ current convictions?	20	< 0.1	5.2
34	10-14 current convictions?	20	< 0.1	11.4
35	5-9 current convictions?	21	< 0.1	34.1
36	2-4 current convictions?	24	< 0.1	75.2
37	1 current conviction?	28	< 0.1	99.7
38	Scheduled current convictions?	39	< 0.1	73.2
	Offence Severity Record (*N* = 64,605)			
	Previous Offences			
1	Previous offences?	48	< 0.1	84.3
2	Previous serious offences?	109	0.2	62.6
3	Drug cultivation?	136	0.2	1.6
4	Drug trafficking?	140	0.2	15.1
5	Drug importation?	142	0.2	0.5
6	Arson/fire-setting?	139	0.2	2.0
7	Use of prohibited weapons?	316	0.5	8.8
8	Discharge firearms	265	0.4	1.5
9	Forcible confinement/kidnapping?	147	0.2	3.2
10	Violence (assault, robbery)?	123	0.2	52.0
11	Sexual offences?	165	0.2	8.6
12	Attempt murder?	126	0.2	0.5
13	Homicide	123	0.2	0.9
14	Conspire to any of the above?	175	0.3	2.6
15	Break and enter with commission to any of the above?	382	0.6	6.7
16	Victims were children?	1,255	1.9	7.1
17	Victims were handicapped/infirm?	1,421	2.2	0.7
18	Victims were elderly?	1,581	2.4	1.8

Table continues on next page

Appendix B continued

Item #	Item	*n* missing	% missing	% present
19	Three or more victims?	897	1.4	30.6
20	Two victims?	953	1.5	39.8
21	One victim?	978	1.5	55.1
22	Use of power/position/authority on victim?	1,145	1.8	16.8
23	Threat of violence to victim?	2,223	3.4	40.2
24	Threaten victim with a weapon?	3,335	5.2	24.7
25	Violence used against victim?	1,124	1.7	44.0
26	Weapons used against victim?	2,857	4.4	16.4
27	Caused death to victim?	199	0.3	1.3
28	Serious injury (wounding, maiming, disfiguring) to victim?	3,143	4.9	10.0
29	Minor injury (hitting, slapping, striking) to victim?	2,607	4.0	40.7
30	Serious psychological harm to victim?	7,082	11.0	11.8
31	Moderate psychological harm to victim?	6,934	10.7	25.6
32	Mild psychological harm to victim?	6,387	9.9	34.3
33	Sentence length over 24 years?	96	0.1	0.2
34	Sentence length 10 to 24 years?	101	0.2	1.7
35	Sentence length 5 to 9 years?	106	0.2	7.3
36	Sentence length 1 day to 4 years?	169	0.3	72.2
	Current Offences			
37	Current serious offences?	11	< 0.1	78.7
38	Drug cultivation?	27	< 0.1	2.0
39	Drug trafficking?	25	< 0.1	17.2
40	Drug importation?	38	< 0.1	2.8
41	Arson/fire-setting?	20	< 0.1	1.2
42	Use of prohibited weapons?	86	0.1	8.5
43	Discharge firearms	48	< 0.1	2.5
44	Forcible confinement/kidnapping?	43	< 0.1	5.4
45	Violence (assault, robbery)?	30	< 0.1	41.4
46	Sexual offences?	37	< 0.1	13.8
47	Attempt murder?	31	< 0.1	1.4
48	Homicide	15	< 0.1	6.9
49	Conspire to any of the above?	83	0.1	5.2

Table continues on next page

Appendix B continued

Item #	Item	*n* missing	% missing	% present
50	Break and enter with commission to any of the above?	54	< 0.1	4.9
51	Victims were children?	174	0.3	11.4
52	Victims were handicapped/infirm?	283	0.4	1.2
53	Victims were elderly?	364	0.6	3.4
54	Three or more victims?	164	0.2	17.4
55	Two victims?	173	0.3	29.5
56	One victim?	185	0.3	59.6
57	Use of power/position/authority on victim?	156	0.2	21.4
58	Threat of violence to victim?	642	1.0	38.0
59	Threaten victim with a weapon?	858	1.3	26.9
60	Violence used against victim?	216	0.3	35.5
61	Weapons used against victim?	415	0.6	18.5
62	Caused death to victim?	39	< 0.1	8.6
63	Serious injury (wounding, maiming, disfiguring) to victim?	448	0.7	16.2
64	Minor injury (hitting, slapping, striking) to victim?	460	0.7	25.0
65	Serious psychological harm to victim?	3,532	5.5	26.9
66	Moderate psychological harm to victim?	3,537	5.5	30.7
67	Mild psychological harm to victim?	3,154	4.9	32.4
68	Sentence length over 24 years?	17	< 0.1	3.7
69	Sentence length 10 to 24 years?	17	< 0.1	6.3
70	Sentence length 5 to 9 years?	19	< 0.1	21.1
71	Sentence length 1 day to 4 years?	32	< 0.1	98.9

Appendix C: Relationship Between Static Risk and Dynamic Need

Table C1. Correlation Between SFA and Dynamic Factors: Non-Aboriginal Men

	SFA Overall	CHR	OSR	SFA Total
Dynamic Overall	**.50 (48,535)**	**.35 (48,535)**	**.35 (48,536)**	**.42 (48,536)**
Employment	**.10 (46,338)**	**.18 (46,338)**	**.05 (46,339)**	**.11 (46,339)**
Marital/Family	**.05 (45,657)**	**.06 (45,657)**	**.05 (45,658)**	**.06 (45,658)**
Associates	**.03 (45,828)**	**.05 (45,828)**	**.02 (45,829)**	**.03 (45,829)**
Substance Abuse	**.06 (47,979)**	**.10 (47,979)**	**.04 (47,980)**	**.08 (47,980)**
Community Functioning	**.07 (45,552)**	**.08 (45,552)**	**.04 (45,553)**	**.07 (45,553)**
Personal/Emotional	**.07 (47,808)**	**.06 (47,808)**	**.05 (47,809)**	**.07 (47,809)**
Attitude	**.06 (45,705)**	**.06 (45,705)**	**.04 (45,706)**	**.06 (45,706)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table C2. Correlation Between SFA and Dynamic Factors: Aboriginal Men

	SFA Overall	CHR	OSR	SFA Total
Dynamic Overall	**.39 (11,140)**	**.24 (11,140)**	**.26 (11,140)**	**.30 (11,140)**
Employment	**.09 (10,842)**	**.18 (10,842)**	**.05 (10,842)**	**.10 (10,842)**
Marital/Family	**.04 (10,674)**	**.07 (10,674)**	**.04 (10,673)**	**.07 (10,674)**
Associates	.01 (10,701)	**.06 (10,701)**	-.002 (10,700)	**.02 (10,701)**
Substance Abuse	**.06 (10,984)**	**.19 (10,984)**	**.04 (10,983)**	**.07 (10,984)**
Community Functioning	**.02 (10,630)**	**.06 (10,630)**	.01 (10,629)	**.04 (10,630)**
Personal/Emotional	**.05 (10,930)**	**.06 (10,930)**	**.06 (10,929)**	**.07 (10,930)**
Attitude	**.04 (10,640)**	**.07 (10,640)**	**.04 (10,639)**	**.05 (10,640)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table C3. Correlation Between SFA and Dynamic Factors: Non-Aboriginal Women

	SFA Overall	CHR	OSR	SFA Total
Dynamic Overall	**.52 (2,535)**	**.39 (2,534)**	**.40 (2,535)**	**.48 (2,535)**
Employment	**.10 (2,429)**	**.20 (2,428)**	**.08 (2,429)**	**.16 (2,429)**
Marital/Family	**.05 (2,390)**	**.09 (2,389)**	**.03 (2,390)**	**.08 (2,390)**
Associates	.01 (2,403)	.03 (2,402)	**.05 (2,403)**	**.05 (2,403)**
Substance Abuse	**.07 (2,496)**	**.09 (2,495)**	**.06 (2,496)**	**.08 (2,496)**
Community Functioning	.01 (2,384)	.03 (2,383)	.02 (2,384)	.03 (2,384)
Personal/Emotional	**.09 (2,489)**	**.04 (2,488)**	**.07 (2,489)**	**.06 (2,489)**
Attitude	.02 (2,388)	.02 (2,387)	**.06 (2,388)**	**.04 (2,388)**

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Table C4. Correlation Between SFA and Dynamic Factors: Aboriginal Women

	SFA Overall	CHR	OSR	SFA Total
Dynamic Overall	**.40 (963)**	**.23 (963)**	**.31 (963)**	**.33 (963)**
Employment	**.12 (924)**	**.11 (924)**	**.08 (924)**	**.11 (924)**
Marital/Family	**.07 (904)**	.05 (904)	.04 (904)	**.05 (904)**
Associates	-.04 (914)	.01 (914)	-.01 (914)	-.003 (914)
Substance Abuse	**.07 (940)**	**.06 (940)**	.01 (940)	.04 (940)
Community Functioning	.02 (896)	.02 (896)	.03 (896)	.02 (896)
Personal/Emotional	.04 (936)	.01 (936)	.03 (936)	.02 (936)
Attitude	.01 (904)	**-.06 (904)**	.01 (904)	-.02 (904)

Note. CHR = Criminal History Record; OSR = Offence Severity Record; SIR = Statistical Information on Recidivism; CRS = Custody Rating Scale.
Value in parenthesis is the sample size. Bold font denotes significant correlations ($p < .05$).

Appendix D: Relationship Between Item Scores and Overall SFA Rating (AUC Values)

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
Criminal History Record					
Previous Offences – Youth Court					
Previous offences in youth court?	**.636 (64,123)[c]**	**.627 (48,806)[c]**	**.573 (11,216)[c]**	**.646 (2,570)[b]**	**.650 (967)[b]**
15+ convictions?	**.678 (63,036)[b]**	**.677 (47,941)[b]**	**.597 (11,024)[c]**	**.720 (2,551)[a]**	**.701 (960)[b]**
10-14 convictions?	**.665 (63,004)[b]**	**.662 (47,916)[b]**	**.586 (11,018)[c]**	**.711 (2,550)[a]**	**.709 (960)[b]**
5-9 convictions?	**.656 (62,966)[b]**	**.650 (47,882)[b]**	**.583 (11,013)[c]**	**.699 (2,550)[b]**	**.695 (961)[b]**
2-4 convictions?	**.643 (62,932)[b]**	**.634 (47,860)[c]**	**.574 (11,002)[c]**	**.676 (2,549)[b]**	**.672 (961)[b]**
1 conviction?	**.634 (62,928)[c]**	**.624 (47,857)[c]**	**.571 (11,002)[c]**	**.644 (2,547)[b]**	**.650 (961)[b]**
Scheduled convictions?	**.644 (63,424)[b]**	**.639 (48,263)[c]**	**.582 (11,091)[c]**	**.671 (2,558)[b]**	**.684 (956)[b]**
Dispositions – community supervision?	**.632 (63,483)[c]**	**.623 (48,325)[c]**	**.560 (11,088)[c]**	**.645 (2,556)[b]**	**.661 (956)[b]**
Dispositions – Open custody?	**.642 (63,385)[b]**	**.634 (48,271)[c]**	**.577 (11,054)[c]**	**.707 (2,553)[b]**	**.691 (952)[b]**
Dispositions – Secure custody?	**.654 (63,463)[b]**	**.649 (48,330)[b]**	**.592 (11,058)[c]**	**.696 (2,563)[b]**	**.672 (957)[b]**
Fail during community supervision?	**.650 (62,450)[b]**	**.644 (47,492)[b]**	**.576 (10,904)[c]**	**.700 (2,546)[b]**	**.696 (952)[b]**
Disciplinary transfers from open to secure?	**.672 (61,448)[b]**	**.670 (46,871)[b]**	**.604 (10,568)[c]**	**.770 (2,539)[a]**	**.706 (935)[b]**
Disciplinary reports in secure custody?	**.680 (59,695)[b]**	**.678 (45,562)[b]**	**.611 (10,167)[c]**	**.748 (2,522)[a]**	**.720 (924)[a]**
Attempt escape/UAL/escape from secure custody?	**.668 (62,371)[b]**	**.662 (47,431)[b]**	**.601 (10,886)[c]**	**.774 (2,551)[a]**	**.669 (950)[b]**
Transfer to adult facility?	**.675 (62,887)[b]**	**.667 (47,875)[b]**	**.618 (10,952)[c]**	**.666 (2,555)[b]**	**.760 (951)[a]**
Previous Offences – Adult Court					
Previous offences in adult court?	**.678 (64,542)[b]**	**.672 (49,147)[b]**	**.629 (11,279)[c]**	**.680 (2,576)[b]**	**.624 (972)[c]**
15+ convictions?	**.692 (64,498)[b]**	**.692 (49,113)[b]**	**.634 (11,274)[c]**	**.744 (2,572)[a]**	**.663 (971)[b]**
10-14 convictions?	**.689 (64,496)[b]**	**.688 (49,111)[b]**	**.631 (11,274)[c]**	**.739 (2,572)[a]**	**.653 (971)[b]**

Table continues on next page

Appendix D continued

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
5-9 convictions?	**.687 (64,492)[b]**	**.683 (49,108)[b]**	**.631 (11,273)[c]**	**.725 (2,572)[a]**	**.662 (971)[b]**
2-4 convictions?	**.685 (64,481)[b]**	**.678 (49,099)[b]**	**.635 (11,272)[c]**	**.697 (2,572)[b]**	**.648 (971)[b]**
1 conviction?	**.679 (64,478)[b]**	**.672 (49,097)[b]**	**.629 (11,271)[c]**	**.686 (2,572)[b]**	**.626 (971)[c]**
Scheduled convictions?	**.689 (64,411)[b]**	**.682 (49,046)[b]**	**.657 (11,262)[b]**	**.711 (2,571)[a]**	**.659 (966)[b]**
Sanctions – Community supervision?	**.671 (64,420)[b]**	**.668 (49,050)[b]**	**.622 (11,261)[c]**	**.691 (2,573)[b]**	**.659 (968)[b]**
Sanctions – Provincial terms?	**.689 (64,471)[b]**	**.680 (49,093)[b]**	**.656 (11,267)[b]**	**.719 (2,572)[a]**	**.664 (971)[b]**
Sanctions – Federal terms?	**.688 (64,510)[b]**	**.690 (49,122)[b]**	**.643 (11,273)[b]**	**.741 (2,576)[a]**	**.723 (971)[a]**
Failure during community supervision?	**.688 (64,012)[b]**	**.684 (48,715)[b]**	**.637 (11,205)[c]**	**.721 (2,563)[a]**	**.664 (962)[b]**
Segregation for disciplinary infractions?	**.704 (61,775)[b]**	**.707 (47,065)[b]**	**.647 (10,708)[b]**	**.759 (2,531)[a]**	**.676 (926)[b]**
Attempt escape/UAL/escapes?	**.657 (64,204)[b]**	**.657 (48,872)[b]**	**.600 (11,229)[c]**	**.758 (2,568)[a]**	**.646 (968)[b]**
Reclassified to higher levels of security?	**.701 (63,203)[b]**	**.702 (48,167)[b]**	**.640 (10,979)[b]**	**.800 (2,547)[a]**	**.741 (951)[a]**
Failures on conditional release?	**.667 (63,973)[b]**	**.668 (48,693)[b]**	**.618 (11,187)[c]**	**.717 (2,566)[a]**	**.678 (960)[b]**
< 6 months since last incarceration?	**.648 (64,427)[b]**	**.647 (49,071)[b]**	**.593 (11,254)[c]**	**.677 (2,565)[b]**	**.591 (969)[c]**
No crime free period of one year or more?	**.653 (64,392)[b]**	**.649 (49,031)[b]**	**.599 (11,259)[c]**	**.643 (2,569)[b]**	**.576 (966)[c]**
Current Offences					
15+ current convictions?	**.512 (64,584)[d]**	**.529 (49,180)[d]**	.478 (11,286)[d]	**.552 (2,577)[d]**	.514 (973)[d]
10-14 current convictions?	**.513 (64,584)[d]**	**.528 (49,180)[d]**	**.469 (11,286)[d]**	**.559 (2,577)[d]**	.514 (973)[d]
5-9 current convictions?	**.529 (64,583)[d]**	**.541 (49,180)[d]**	**.486 (11,286)[d]**	**.571 (2,577)[c]**	.490 (973)[d]
2-4 current convictions?	**.542 (64,580)[d]**	**.551 (49,180)[d]**	.497 (11,283)[d]	**.613 (2,577)[c]**	**.461 (973)[d]**
1 current conviction?	.530 (64,576)[d]	.521 (49,180)[d]	.563 (11,283)[c]	.477 (2,577)[d]	.319 (973)[b]
Scheduled current convictions?	**.537 (64,565)[d]**	**.528 (49,180)[d]**	**.547 (11,283)[d]**	**.538 (2,574)[d]**	.545 (972)[d]

Table continues on next page

Appendix D continued

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
Offence Severity Record					
Previous Offences					
Previous offences?	**.716 (64,556)[a]**	**.699 (49,148)[b]**	**.709 (11,287)[b]**	**.680 (2,577)[b]**	**.699 (974)[b]**
Previous serious offences?	**.714 (64,195)[a]**	**.701 (49,097)[b]**	.695 (11,280)[b]	**.717 (2,575)[a]**	**.702 (974)[b]**
Drug cultivation?	.489 (64,468)[d]	.496 (49,075)[d]	**.477 (11,276)[d]**	.514 (2,575)[d]	**.410 (973)[c]**
Drug trafficking?	**.543 (64,464)[d]**	**.553 (49,073)[d]**	**.514 (11,275)[d]**	**.613 (2,575)[c]**	.518 (972)[d]
Drug importation?	.474 (64,462)[d]	.498 (49,070)[d]	.485 (11,275)[d]	.463 (2,575)[d]	**.094 (973)[a]**
Arson/fire-setting?	**.651 (64,465)[b]**	**.656 (49,075)[b]**	**.578 (11,273)[c]**	**.765 (2,575)[a]**	**.781 (973)[a]**
Use of prohibited weapons?	**.666 (64,288)[b]**	**.669 (48,935)[b]**	**.601 (11,245)[c]**	**.757 (2,573)[a]**	**.726 (966)[a]**
Discharge firearms	**.661 (64,339)[b]**	**.659 (48,980)[b]**	**.595 (11,245)[c]**	**.735 (2,574)[a]**	.614 (971)[c]
Forcible confinement/kidnapping?	**.688 (64,457)[b]**	**.693 (49,068)[b]**	**.628 (11,272)[c]**	**.813 (2,575)[a]**	**.672 (973)[b]**
Violence (assault, robbery)?	**.711 (64,481)[a]**	**.698 (49,086)[b]**	**.679 (11,277)[b]**	**.746 (2,575)[a]**	**.712 (974)[a]**
Sexual offences?	**.698 (64,439)[b]**	**.695 (49,056)[b]**	**.635 (11,266)[c]**	**.759 (2,575)[a]**	**.664 (973)[b]**
Attempt murder?	**.699 (64,478)[b]**	**.694 (49,087)[b]**	**.660 (11,276)[b]**	.680 (2,574)[b]	**.701 (972)[b]**
Homicide	**.702 (64,481)[b]**	**.692 (49,088)[b]**	**.641 (11,276)[b]**	**.793 (2,575)[a]**	**.761 (973)[a]**
Conspire to any of the above?	**.580 (64,429)[c]**	**.589 (49,048)[c]**	**.573 (11,267)[c]**	**.727 (2,574)[a]**	**.410 (971)[c]**
B&E with commission to any of above?	**.629 (64,422)[c]**	**.626 (48,891)[c]**	**.600 (11,219)[c]**	**.816 (2,573)[a]**	**.596 (972)[c]**
Victims were children?	**.685 (63,349)[b]**	**.688 (48,253)[b]**	**.614 (11,015)[c]**	**.712 (2,565)[a]**	**.679 (958)[b]**
Victims were handicapped/infirm?	**.719 (63,183)[a]**	**.737 (48,106)[a]**	**.619 (11,010)[c]**	.596 (2,561)[c]	**.719 (952)[a]**
Victims were elderly?	**.684 (63,023)[b]**	**.685 (47,985)[b]**	**.627 (10,978)[c]**	**.801 (2,557)[a]**	**.637 (946)[c]**
Three or more victims?	**.732 (63,707)[a]**	**.726 (48,482)[a]**	**.681 (11,140)[b]**	**.778 (2,563)[a]**	**.732 (956)[a]**

Table continues on next page

Appendix D continued

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
Two victims?	**.732 (63,651)[a]**	**.724 (48,442)[a]**	**.686 (11,126)[b]**	**.759 (2,562)[a]**	**.703 (956)[b]**
One victim?	**.730 (63,626)[a]**	**.718 (48,424)[a]**	**.702 (11,123)[b]**	**.738 (2,559)[a]**	**.713 (954)[a]**
Use of power/position/authority on victim?	**.675 (63,459)[b]**	**.676 (48,304)[b]**	**.610 (11,072)[c]**	**.755 (2,566)[a]**	**.669 (953)[b]**
Threat of violence to victim?	**.718 (62,381)[a]**	**.709 (47,466)[b]**	**.673 (10,874)[b]**	**.773 (2,549)[a]**	**.716 (936)[a]**
Threaten victim with a weapon?	**.712 (61,269)[a]**	**.707 (46,579)[b]**	**.656 (10,675)[b]**	**.768 (2,541)$_a$**	**.740 (924)[a]**
Violence used against victim?	**.710 (63,480)[a]**	**.697 (48,271)[b]**	**.675 (11,126)[b]**	**.736 (2,563)[a]**	**.716 (958)[a]**
Weapons used against victim?	**.698 (61,747)[b]**	**.689 (46,962)[b]**	**.647 (10,744)[b]**	**.737 (2,548)[a]**	**.710 (939)[a]**
Caused death to victim?	**.684 (64,405)[b]**	**.677 (49,024)[b]**	**.624 (11,267)[c]**	**.748 (2,574)[a]**	**.723 (972)[a]**
Serious injury to victim?	**.708 (61,461)[b]**	**.698 (46,730)[b]**	**.653 (10,698)[b]**	**.750 (2,550)[a]**	**.729 (936)[a]**
Minor injury to victim?	**.701 (61,997)[b]**	**.690 (46,997)[b]**	**.658 (10,961)[b]**	**.721 (2,543)[a]**	**.691 (943)[b]**
Serious psychological harm to victim?	**.744 (57,522)[a]**	**.742 (43,448)[a]**	**.678 (10,143)[b]**	**.824 (2,509)[a]**	**.791 (897)[a]**
Moderate psychological harm to victim?	**.733 (57,670)[a]**	**.725 (43,423)[a]**	**.678 (10,323)[b]**	**.797 (2,501)[a]**	**.705 (891)[b]**
Mild psychological harm to victim?	**.712 (58,217)[a]**	**.705 (43,840)[b]**	**.654 (10,463)[b]**	**.741 (2,490)[a]**	**.696 (886)[b]**
Sentence length over 24 years?	**.672 (64,508)[b]**	**.672 (49,111)[b]**	**.635 (11,278)[c]**	-	-
Sentence length 10 to 24 years?	**.700 (64,503)[b]**	**.705 (49,109)[b]**	**.639 (11,275)[c]**	**.874 (2,577)[a]**	.613 (973)[c]
Sentence length 5 to 9 years?	**.688 (64,498)[b]**	**.690 (49,106)[b]**	**.640 (11,274)[b]**	**.788 (2,576)[a]**	**.781 (973)[a]**
Sentence length 1 day to 4 years?	**.706 (64,435)[b]**	**.693 (49,060)[b]**	**.687 (11,267)[b]**	**.704 (2,571)[b]**	**.679 (969)[b]**
Current Offences					
Current serious offences?	**.533 (64,593)[d]**	**.523 (49,184)[d]**	**.556 (11,287)[d]**	**.540 (2,578)[d]**	**.562 (974)[c]**
Drug cultivation?	**.326 (64,577)[b]**	**.332 (49,173)[b]**	**.360 (11,285)[b]**	.412 (2,577)[c]	.440 (973)[c]
Drug trafficking?	**.319 (64,579)[b]**	**.326 (49,172)[b]**	**.346 (11,287)[b]**	**.412 (2,577)[c]**	**.309 (974)[b]**

Table continues on next page

Appendix D continued

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
Drug importation?	**.186 (64,566)[a]**	**.221 (49,161)[a]**	**.296 (11,284)[b]**	**.221 (2,578)[a]**	**.116 (974)[a]**
Arson/fire-setting?	**.524 (64,584)[d]**	**.525 (49,176)[d]**	.518 (11,287)[d]	**.650 (2,578)[b]**	.558 (974)[d]
Use of prohibited weapons?	**.577 (64,518)[c]**	**.583 (49,124)[c]**	**.524 (11,279)[d]**	**.656 (2,576)[b]**	**.633 (971)[c]**
Discharge firearms	**.591 (64,556)[c]**	**.601 (49,153)[c]**	.510 (11,282)[d]	**.664 (2,578)[b]**	.573 (974)[c]
Forcible confinement/kidnapping?	**.612 (64,561)[c]**	**.620 (49,157)[c]**	**.563 (11,284)[c]**	**.688 (2,577)[b]**	.565 (974)[c]
Violence (assault, robbery)?	**.629 (64,574)[c]**	**.623 (49,170)[c]**	**.573 (11,284)[c]**	**.709 (2,578)[b]**	**.667 (973)[b]**
Sexual offences?	**.610 (64,567)[c]**	**.611 (49,166)[c]**	**.535 (11,283)[d]**	**.755 (2,578)[a]**	**.615 (972)[c]**
Attempt murder?	**.636 (64,573)[c]**	**.656 (49,171)[b]**	**.568 (11,281)[c]**	**.673 (2,578)[b]**	.585 (974)[c]
Homicide	**.651 (64,589)[b]**	**.662 (49,181)[b]**	**.590 (11,287)[c]**	**.696 (2,578)[b]**	**.649 (974)[b]**
Conspire to any of the above?	**.439 (64,521)[c]**	**.446 (49,130)[d]**	.497 (11,273)[d]	.501 (2,576)[d]	.447 (974)[d]
B&E with commission to any of above?	**.589 (64,550)[c]**	**.585 (49,148)[c]**	**.535 (11,282)[d]**	**.713 (2,577)[a]**	.571 (974)[c]
Victims were children?	**.592 (64,430)[c]**	**.596 (49,043)[c]**	**.530 (11,272)[d]**	**.711 (2,574)[a]**	.565 (972)[c]
Victims were handicapped/infirm?	**.636 (64,321)[c]**	**.648 (48,959)[b]**	**.573 (11,258)[c]**	**.662 (2,570)[b]**	**.646 (969)[b]**
Victims were elderly?	**.587 (64,240)[c]**	**.593 (48,892)[c]**	**.549 (11,242)[d]**	**.671 (2,571)[b]**	**.588 (967)[c]**
Three or more victims?	**.579 (64,440)[c]**	**.582 (49,056)[c]**	**.537 (11,267)[d]**	**.653 (2,575)[b]**	**.548 (974)[d]**
Two victims?	**.601 (64,431)[c]**	**.604 (49,050)[c]**	**.548 (11,264)[d]**	**.669 (2,575)[b]**	**.552 (974)[d]**
One victim?	**.674 (64,419)[b]**	**.665 (49,044)[b]**	**.608 (11,261)[c]**	**.750 (2,573)[a]**	**.696 (974)[b]**
Use of power/position/authority on victim?	**.613 (64,448)[c]**	**.617 (49,081)[c]**	**.560 (11,260)[c]**	**.683 (2,574)[b]**	**.611 (969)[c]**
Threat of violence to victim?	**.643 (63,962)[b]**	**.639 (48,723)[c]**	**.587 (11,269)[c]**	**.692 (2,558)[b]**	**.645 (952)[b]**
Threaten victim with a weapon?	**.615 (63,746)[c]**	**.614 (48,555)[c]**	**.562 (11,231)[c]**	**.679 (2,554)[b]**	**.624 (949)[c]**
Violence used against victim?	**.668 (64,388)[b]**	**.663 (49,011)[b]**	**.610 (11,263)[c]**	**.738 (2,576)[a]**	**.672 (971)[b]**

Table continues on next page

Appendix D continued

Item	Total Sample	Non-Aboriginal Men	Aboriginal Men	Non-Aboriginal Women	Aboriginal Women
Weapons used against victim?	**.640 (64,189)**[b]	**.641 (48,851)**[b]	**.581 (11,238)**[c]	**.719 (2,566)**[a]	**.643 (968)**[b]
Caused death to victim?	**.628 (64,565)**[c]	**.636 (49,163)**[c]	**.582 (11,282)**[c]	**.657 (2,578)**[b]	**.623 (974)**[c]
Serious injury to victim?	**.649 (64,156)**[b]	**.645 (48,827)**[b]	**.597 (11,224)**[c]	**.729 (2,572)**[a]	**.636 (967)**[c]
Minor injury to victim?	**.647 (64,144)**[b]	**.641 (48,811)**[b]	**.594 (11,229)**[c]	**.703 (2,571)**[b]	**.621 (970)**[c]
Serious psychological harm to victim?	**.664 (61,072)**[b]	**.663 (46,277)**[b]	**.596 (10,809)**[c]	**.760 (2,507)**[a]	**.628 (936)**[c]
Moderate psychological harm to victim?	**.633 (61,067)**[c]	**.628 (46,211)**[c]	**.572 (10,884)**[c]	**.678 (2,497)**[b]	**.603 (936)**[c]
Mild psychological harm to victim?	**.615 (61,450)**[c]	**.610 (46,537)**[c]	**.559 (10,944)**[d]	**.643 (2,492)**[b]	**.599 (932)**[c]
Sentence length over 24 years?	**.700 (64,587)**[b]	**.712 (49,183)**[a]	**.640 (11,286)**[b]	**.749 (2,578)**[a]	**.707 (972)**[b]
Sentence length 10 to 24 years?	**.661 (64,587)**[b]	**.666 (49,183)**[b]	**.639 (11,286)**[c]	**.667 (2,578)**[b]	**.707 (972)**[b]
Sentence length 5 to 9 years?	**.594 (64,585)**[c]	**.594 (49,183)**[c]	**.603 (11,283)**[c]	**.534 (2,579)**[d]	**.644 (972)**[b]
Sentence length 1 day to 4 years?	**.618 (64,572)**[c]	**.622 (49,172)**[c]	**.597 (11,280)**[c]	**.634 (2,579)**[b]	.387 (972)[c]

Note. Bold font denotes significant AUCs ($p < .05$). Value in parentheses is the sample size. [a]Large effect (AUC > .710 or ≤ .290). [b]Moderate effect (AUC > .640 or ≤ .360). [c]Small effect (AUC > .560 or ≤ .440) [d]Does not meet criteria for small effect (also considered non-meaningful).