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Distinguishing Characteristics of

Substance Abuse Program

Completers and Non-Completers

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Distinguishing Characteristics of Substance Abuse Program Completers and Non-Completers

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Executive Summary

Key words: *substance abuse programs; substance abuse program non-completion; motivation to treatment; men offenders*

About 80% of offenders serving sentences in Canadian federal institutions have at least some substance abuse problems that require intervention (Motiuk, Cousineau, & Gileno, 2005; Weekes, Moser, Ternes & Kunic, 2009). Substance Abuse Programs (SAPs) are offered to federally sentenced offenders presenting a degree of problematic drug or alcohol use upon admission to federal institutions. These programs have been shown to be effective in reducing re-conviction for offenders who complete all sessions (Doherty, Ternes, & Matheson, in press; Kunic & Varis, 2009). However, a significant proportion of those entering a SAP do not complete the program in its entirety. Program attrition is associated with elevated administrative costs and poor post-release outcomes. Therefore, information regarding which offenders are more likely to drop out of a SAP could allow for targeted interventions to increase rates of completions.

The goal of the present study was to examine the prevalence of SAP non-completion and the extent to which offenders who do not complete because of offender reasons (e.g., personal reasons, dropped out, suspended) differ from those who do complete and those who do not complete for administrative reasons (e.g., transferred, released, program cancelled) on demographic factors, substance use history, criminal history, substance abuse program exposure, criminogenic needs, risk of recidivism, reintegration potential, and institutional charges. The study sample consisted of 4,592 federally sentenced men offenders who participated in a moderate or high intensity nationally recognized substance abuse program between January 1, 2005 and December 31, 2010 and who completed the Computerized Assessment of Substance Abuse (CASA). Almost 85% of offenders in the sample completed their program (n = 3,899); 13% did not complete for offender reasons (n = 587) and 2% did not complete for administrative reasons (n = 106).

Results showed that offenders who did not complete for offender reasons were distinct on a range of variables from both those who did not complete for administrative reasons as well as SAP completers. Compared to completers, non-completers for offender reasons were younger, less educated, less motivated for intervention, more likely to be serving their current sentence for having committed a violent crime, more likely to incur a serious charge while incarcerated, more likely to have participated in high intensity SAP, and more likely to report an unstable employment history. There were relatively few differences between those who completed SAP and those who did not complete SAP for administrative reasons.

The findings indicate that SAP non-completers form a heterogeneous group which should be taken into account when examining SAP effectiveness. The results also highlight that non-completers for offender reasons present individual characteristics that might affect their responsivity to treatment. Identifying offenders presenting this specific profile and tailoring interventions to facilitate their learning could help reduce program attrition and improve rehabilitation.

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Introduction

Research has found a strong relationship between substance abuse and criminal behaviour (Gendreau, Goggin, Cullen, & Andrews, 2000; Grant, Kunic, MacPherson, McKeown, & Hansen, 2003). Additionally, the international literature points out the high prevalence of substance abuse problems among incarcerated offenders. For example, in a National Australian offender health census prepared in 2009, 52% of the 27,000 offenders included in the census consumed alcohol at risky levels and 71% had used illicit drugs during the 12 months prior to incarceration (Australian Institute of Health and Welfare, 2010). Similarly, the 2006 Scottish Prison Survey reported that almost half (44%) of offenders indicated that their substance use was problematic for them prior to their arrest (UK Drug Policy Commission, 2008). In Canada, data indicate that nearly 80% of men serving sentences in federal institutions have at least some substance abuse problems which require intervention (Motiuk, Cousineau, & Gileno, 2005; Weekes, Moser, Ternes, & Kunic, 2009). Furthermore, 34% of these offenders were assessed as having a substantial or severe drug or alcohol problem and as needing high intensity substance abuse programming (Weekes et al., 2009).

A substance abuse problem is an important factor in offending but also could account for high levels of return to custody. In a Canadian study of federally-sentenced men and women offenders, drug and alcohol involvement accounted for 73% of offender release suspensions (Weekes, Millson, & Lightfoot, 1995). Moreover, those with substantial to severe substance abuse problems were almost twice as likely to be readmitted to custody as those with none to low substance abuse severity. Given the significant link between substance abuse and high rates of recidivism, addressing the moderate to severe substance abuse problems should be a priority in the correctional setting.

As part of Correctional Service Canada's (CSC) strategy to contribute to public safety by rehabilitating offenders into the community, substance abuse programs (SAPs) are offered to offenders with problematic drug or alcohol use. These programs include, but are not limited to, the National Substance Abuse Program (NSAP), the Aboriginal Offender Substance Abuse Program (AOSAP), and the Women Offender Substance Abuse Program (WOSAP).[1] These

[1] CSC began piloting the Integrated Correctional Program Model (ICPM) for male offenders in the Pacific Region in January 2010, in the Atlantic Region in June 2011, and in the Quebec region in the fall of 2013 (CSC, 2013a). ICPM

programs have been shown to be effective in reducing reconviction for offenders who complete all sessions; however, a significant proportion of offenders entering a SAP do not complete the program. Program attrition is associated with elevated administrative costs and is linked to higher levels of return to custody (Doherty et al., in press; Kunic & Varis, 2009; McMurran & Theodosi, 2007; Ternes et al., in press). Those who do not complete may have distinct characteristics that may be associated with risk of recidivism. Previous CSC research on program attrition points out the heterogeneity of non-completers in terms of risk, needs, and motivation for intervention. It suggests that non-completers for personal reasons (i.e., behaviour outside of the program or due to circumstances unrelated to the program) present a higher risk profile compared to completers and non-completers for administrative reasons (i.e., reasons out of the offenders' personal control; Nunes & Cortoni, 2006b). The scientific literature also suggests that SAP non-completers present specific individual characteristics that reduce their ability to complete their program. According to the responsivity principle, it is not sufficient to provide offenders with proper programs for interventions but it is also important to deliver them in a way that supports the offenders as they progress through the curriculum. Identifying the profile of offenders less likely to complete a SAP would increase the understanding of their specific responsivity issues to treatment and help develop effective strategies for retaining these offenders in substance abuse programming.

Program Non-Completion

As mentioned, studies have revealed that, although SAPs offered by CSC are effective in reducing recidivism among those who complete all the sessions (Doherty et al., in press; Kunic & Varis, 2009; Ternes et al., in press),, a substantial proportion of inmates who begin a SAP do not complete all sessions. For example, the recent research on NSAP found that 19% of those who began attending NSAP-High intensity and 8% of those who began attending NSAP-Moderate intensity failed to complete the program (Doherty et al., in press; Ternes et al., in press). McMurran and Theodosi (2007) analysed 17 samples of offenders in correctional programs worldwide and found that the rate of non-completion was close to 15% in the institutional samples and nearly 46% in the community samples.

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targets multiple correctional program needs, including substance abuse, within one program, eliminating the need for separate substance abuse programming. Likewise, WOSAP was discontinued in all federal women's correctional institutions in June 2011 to make way for the Women Offender Correctional Program, which also targets multiple correctional program needs, including substance abuse.

Studies have also shown that SAP non-completers exhibit poor post-release outcomes as they appear to return to custody at a higher rate than completers. In a study examining the effects of successful completion of AOSAP, non-completers were more than twice as likely to return to custody compared to completers after an 18-month period (Kunic & Varis, 2009). Similarly, studies examining the effectiveness of the NSAP-High Intensity and the NSAP-Moderate Intensity on post-release outcomes shows that offenders who did not complete the program were 34% and 25% more likely to return to custody compared to completers, respectively (Doherty et al., in press; Ternes et al., in press).

Research has shown that offenders who started but did not complete programs are actually at higher risk for re-conviction than offenders who did not participate at all (Cann, Falshaw, Nugent, & Friendship, 2003; Doherty et al., in press; Hanson & Bussiere, 1998; McMurran & Theodosi, 2007; McMurran & McCulloch, 2007; Ternes et al., in press; Wormith & Olver, 2002). Doherty et al.'s (in press) examination of the NSAP-High Intensity found that offenders who failed to complete the program were 34% more likely to return to custody than those who completed the program. A similar examination of NSAP-Moderate Intensity found that offenders who failed to complete the program were 25% more likely to return to custody than those who completed the program (Ternes et al., in press). Additionally, in a meta-analysis of 17 studies on cognitive-behavioural treatment completion outcomes, untreated offenders were less likely than program non-completers to recidivate (McMurran & Theodosi, 2007). Although poor risk comparability between the sample groups may account for some of this effect, it is still possible that treatment non-completers are at greater risk of reoffending. These findings suggest that it would be valuable to further investigate and differentiate the reasons for non-completion with the intention of identifying the characteristics that distinguish program completers from dropouts and those who did not complete a program for administrative reasons. Furthermore, it is also important to identify the factors associated with program attrition as some may be more important in recidivism than others. Wormith and Olver (2002) categorized three reasons for non-completion within a correctional setting: client-initiated dropout, agency-initiated expulsion, and administratively based exit. They found few differences between offenders who had been expelled and those who dropped out of treatment.

Keeping offenders in programs may be crucial to their successful reintegration. Additionally, program attrition leads to classes being run at less than optimal numbers, which

could be disadvantageous for the remaining offenders in treatment as well as to the overall administrative cost (McMurran & Theodosi, 2007). Given the high rates of recidivism associated with dropouts, as well as the elevated costs, it becomes imperative to identify the reasons for program non-completion in a correctional setting, as well as the characteristics of offenders who are at higher risk for program attrition.

Many studies suggest that those offenders who complete a SAP differ from those who do not. Several important factors have been identified as being strongly linked with program non-completion. Notably, compared to program completers, program non-completers tend to be younger (Agosti et al., 1996; Hanson & Bussiere, 1998; McMurran & McCulloch, 2007; McMurran & Theodosi, 2006; Nunes & Cortoni, 2006a, 2006b; Saum, Scarpitti, & Robbins, 2001), less educated (Agosti et al., 1996; Brown, 2010; Nunes & Cortoni, 2006a; Wormith & Olver, 2002), unemployed (Butzin, Saum, & Scarpitti, 2002; Hiller, Knight & Simpson, 1999; Nunes & Cortoni, 2006a, 2006b; Wormith & Olver, 2002), and from a visible minority group (Agosti et al., 1996; Wormith & Olver, 2002; Nunes & Cortoni, 2006a, 2006b). In comparison to completers, non-completers also have a higher risk of re-offending (as measured by the Statistical Information on Recidivism scale; Hiller et al., 1999; Nunes & Cortoni, 2006a, 2006b; Wormith & Olver, 2002), higher criminogenic needs (Hiller et al., 1999; Nunes & Cortoni, 2006a, 2006b), lengthier criminal histories (Evans, Hser, & Huang, 2009), lower motivation for treatment (Evans et al., 2009; Nunes & Cortoni, 2006a, 2006b), a longer history of drug consumption, and a history of using drugs such as opioids, crack/cocaine, methamphetamines, and heroin (Agosti et al., 1996; Evans et al., 2009; Hiller et al., 1999).

Nunes and Cortoni (2006b) analysed the distinct types of attrition from various institutional programs to compare the characteristics of offenders who did not complete. Non-completers were divided according to the reasons for attrition: 18% did not complete for administrative reasons, 41% failed to complete due to personal circumstances, and 41% dropped out or were expelled. Results suggested that characteristics of non-completers due to administrative reasons did not differ significantly from those of the completers in terms of age, risk, motivation, and overall criminogenic need. However, offenders who dropped out of programs were younger, had higher levels of risk, had greater criminogenic need, and had lower levels of motivation for intervention, as compared to completers and the other groups of non-completers. This heterogeneity amongst offenders who do not complete programs, including

substance abuse programs, may point to important needs that require special attention within this sub-population. If high needs and/or high risk offenders are particularly likely to quit or be expelled, then perhaps measures could be taken to ensure that these individuals are retained in programs since they are the ones who likely need it most.

The Present Study

The goal of the present study was to examine and differentiate individual characteristics of substance abuse program completers versus non-completers in Canadian federal men offenders. The specific objectives of this study were to examine the extent to which various types of non-completers (offender vs. administrative reasons) differ from each other and from completers in terms of demographic profile, substance use history prior to incarceration, criminal history, substance abuse program exposure, criminogenic needs, risk of recidivism, reintegration potential, and institutional charges. This information will contribute to a better understanding of the individual differences among substance abuse program completers and non-completers, allowing for the adaptation of interventions and case management strategies to more effectively intervene with these offenders.

Method

Study Sample

The sample consisted of 4,592 federally sentenced men offenders who participated in a high- or moderate-intensity nationally-recognized SAP (i.e., NSAP, AOSAP) between January 1, 2005 and December 31, 2010 and who also completed the Computerized Assessment of Substance Abuse (CASA). Within this sample, 3,899 (85%) completed the program, 587 (13%) did not complete the program for offender reasons (dropped out, suspended, personal reasons; non-completers – offender), and 106 (2%) did not complete for administrative reasons (transferred, program cancelled, released, assignment transferred, or reached their warrant expiry date; non-completers - admin). See Table 1 for more details regarding the SAP status of completion. Of the 4,592 offenders, 83% participated in a moderate intensity program and 17% participated in a high intensity program; 7% of the 4,592 offenders participated in the high- or moderate-intensity Aboriginal program (AOSAP).

Among the full sample, the mean age of offenders at program entry was 34 years (SD = 9.8). The oldest was 74-years-old and the youngest was 18-years-old. Furthermore, 18% of the participants self-reported being of Aboriginal ancestry (Inuit, Métis, and First Nations). More than half (53%) of the sample reported being single, 39% of offenders were married or in a common-law relationship, and 8% reported being previously married (divorced or widowed). The majority of offenders were serving determinate sentences with a mean sentence length of 3.4 years (SD = 1.9). A small proportion of the sample (1%) was serving indeterminate or life sentences. More than half (66%) of the offenders were serving their first sentence, 19% their second sentence, and 15% were undergoing their third sentence or more.

Table 1

Substance Abuse Program Status of Completion

Status	Completers (*n* = 3,899)		Non-Completers (Offender Reasons) (*n* = 587)		Non-Completers (Administrative Reasons) (*n* = 106)	
	n	%	*n*	%	*n*	%
Successful completion	3,731	96	-	-	-	-
Suspended	-	-	367	63	-	-
Transferred	-	-	-	-	41	39
Program cancelled	-	-	-	-	22	21
Released	-	-	-	-	31	29
Attended all sessions	168	4	-	-	-	-
Assignment transferred	-	-	-	-	8	7
Incomplete	-	-	220	37	-	-
Warrant expiry date reached	-	-	-	-	4	4

Procedure/Analytic Approach

Definitions of substance abuse program completion and non-completion. The degree of participation in the substance abuse program was determined based on data from the Offender Management System (OMS). This particular study categorized offenders into three groups, depending on their level of participation. The distinction between groups was modelled after Wormith and Olver (2002), where attrition was considered as either client-initiated dropout, agency-initiated expulsion, or administratively based exit. This distinction is important because certain types of attrition may be more closely linked to a particular type of offender who may be at a higher risk for recidivism.

Completers included offenders who had successfully completed the program or had attended each session. *Non-completers for administrative reasons* comprised offenders who did not complete due to reasons which were out of their control (e.g., released, reached warrant expiry date, transferred institutions, program cancelled, assignment transferred). In these cases, program attrition was due to structural issues without offender implication. *Non-completers for offender reasons* included offenders who did not complete the program due to personal reasons

(e.g., the offender was admitted to the hospital, or was put in involuntary or voluntary isolation). Offenders who dropped out or who were excluded from the program by staff were also included in this group. These offenders did not complete due to behavioural problems during the program or due to insufficient participation during sessions (i.e., they attended sessions but did not put in an adequate amount of effort).

Data Sources

Two databases were used for this research project. First, the OMS is an electronic administrative and operational database used by CSC to maintain all offender records throughout their federal sentence. The OMS was used to obtain information on offender demographic characteristics, correctional program reports, sentence and conviction information, Offender Intake Assessment (OIA) information, including static and dynamic risk and need assessment, and institutional charges. Second, the CASA was used to determine the pattern of substance use prior to incarceration and the severity of substance abuse problems in our sample. The CASA, which is administered to men offenders at the time of admission to CSC, is an assessment of substance abuse problems and contains questions relating to substance use history in a variety of domains (Kunic, 2006; Kunic & Grant, 2006).

Measures

Demographic characteristics. The demographic characteristics examined in this sample included the age at the start of the program, marital status (single, married/common law, divorced, widowed), and Aboriginal ancestry.

Sentence and conviction information. Involvement with the federal correctional system was examined using the current sentence length (number of days from sentence commencement to the warrant expiry date), the total number of federal sentences, whether the offence for the current sentence was drug-related or involved a violent crime (behaviours causing death or bodily harm, robbery, and contact sexual offences).

Institutional charges. Institutional charges are recorded in OMS. These charges can be minor or serious depending on the severity of the offense and according to the judgment and discretion of CSC staff. Institutional misconduct such as inmate fights and drug possession are typically classified as serious charges, whereas disobedience and possession of a non-authorized item are typically classified as minor charges. Only guilty charges were considered in the present

study.

Criminogenic needs. An offender's criminogenic needs (i.e., dynamic risk) are evaluated during the OIA (Motiuk, 1997) within the first 90 days of admission into a federal institution (CSC, 2007). Several domains are evaluated to provide a thorough assessment of the offender's criminogenic needs. Data emerging from interviews with the offender and other information sources such as police reports, family members, parole officers, correctional officers, and other staff are analysed to confirm the existence of seven important criminogenic factors: employment and education (35 indicators), marital and family relationships (31 indicators), associates (11 indicators), community functioning (21 indicators), substance abuse (29 indicators), personal/emotional (46 indicators), and general attitude (24 indicators).

The Dynamic Factor Identification and Analysis protocol (DFIA) from the OIA evaluates a variety of dynamic risk factors found in these seven domains comprising of multiple indicators (Brown & Motiuk, 1995). The DFIA estimates the level of need (low, moderate, high) for each domain as well as an overall assessment for dynamic risk needs.[2] Since employment and education have previously been identified as predictors of substance abuse program non-completion, more specific indicators (answered dichotomously) were used to measure these factors. A low education level was measured by the item "has less than grade 10 or equivalent" and unemployment was assessed by the item "job history has been unstable".

Risk assessment. The revised Statistical Information on Recidivism Scale (SIR-R1) is a validated risk assessment tool which analyzes static risk factors to assess the risk for recidivism (very low to very high) during the first three years after release in offenders housed in federal correctional facilities (Nafekh & Motiuk, 2002). In addition to this instrument, the Static Factor Assessment (SFA) provides detailed information on the offender's criminal history and the risk factors of each individual offender which could contribute to his global risk score at admission (Motiuk, 1997; CSC, 2007). CSC policy does not permit the use of the SIR-R1 for Aboriginal offenders. For this reason, the risk score was evaluated using the OIA's overall static risk assessment for Aboriginal offenders.

[2] A revised version of the Dynamic Factor Identification and Analysis (DFIA-R) was implemented in October 2009. The revised version consists of fewer indicators, but the original seven need domains were retained. The DFIA and DFIA-R are different tools with different items, different response options, and the training of staff is different, so data from the tools cannot be combined. Because so few offenders in the present sample were admitted after DFIA-R was implemented (i.e., <10% of the sample), only the original DFIA factors were considered in the present study. Since the DFIA and the DFIA-R contain equivalent items related to low education level and unstable job history, these data came from both the DFIA and the DFIA-R.

Reintegration potential. Reintegration potential is a rating used to assess the risk presented in the community by an offender and is based on the offender's security classification (Custody Rating Scale [CRS] rating), static factor rating of the OIA, and SIR-R scale score for non-Aboriginal offenders (Motiuk & Nafekh, 2001; CSC, 2007). The reintegration potential rating for Aboriginal offenders is based on the CRS, the static factor rating of the OIA, and the dynamic factor rating of the OIA. Offenders are assigned a level of "low," "moderate," or "high" reintegration potential.

History of drug use. As mentioned, the CASA is administered to men offenders upon reception into federal custody to determine the existence and severity of substance abuse problems (Kunic, 2006; Kunic & Grant, 2006). The CASA incorporates the Alcohol Dependency Scale (ADS; Skinner & Horn, 1984) and the Drug Abuse Screening Test (DAST; Skinner, 1982) to identify problematic use of alcohol and other drugs. The CASA was also used to assess the drug of choice and injection drug use in the year prior to arrest. The drug of choice was assessed with the item "Look back to the 12 months before your arrest for this current offence(s). What drug were you using the most?" Drugs of choice were categorized into seven types: 1) cannabis; 2) cocaine (powder cocaine and crack); 3) prescription opiates; 4) heroin; 5) amphetamines (MDA, love drug, ecstasy, amphetamines, uppers); 7) others (hallucinogens, methadone, inhalants, prescribed drugs [benzodiazepines, tranquilizers, barbiturates], steroids, organic drugs, performance enhancers, and others).

The DAST measures severity of problems associated with drug use in the 12 months prior to arrest using 20 items assessed through a dichotomous response format. These items include questions regarding frequency of use, symptoms of dependence, extent of drug-related interference, feelings of guilt, and prior treatment (Boland, Henderson, & Baker, 1998). Example items include: "Do you abuse more than one drug at a time?" and "Has drug abuse ever created problems between you and your spouse?" The total score is divided into five severity level categories: none (score of 0), low (1-5), moderate (6-10), substantial (11-15), and severe (16-20). Evidence shows that the DAST yields excellent reliability (Cronbach's alpha = .86 to .95) (Boland et al., 1998), and good external validity (Yudko, Lozhkina, & Fouts, 2007).

The ADS assesses the severity of alcohol problems in the 12 months prior to arrest with an emphasis on the identification of physiological symptoms associated with alcohol use. The ADS consists of 25 items including: "Did you have the shakes when sobering up (hands tremble,

shake inside)?" and "As a result of drinking, did you see things that weren't really there?" The total score is divided into five severity levels: none (0), low (1-13), moderate (14-21), substantial (22-30), and severe (31-47). The ADS yields excellent reliability (Cronbach's alpha values range from 0.85 to 0.94) and external validity (Boland et al., 1998).

In this study, offenders were classified as primarily alcohol abusers, primarily drug abusers, drug and alcohol abusers, and neither drug nor alcohol abusers. DAST and ADS ratings were used to create these categories: if the offenders' ADS and DAST classifications were both none or low, the offender was included in the neither drug nor alcohol group; if the DAST classification (moderate, substantial, or severe) was equivalent to the ADS classification, the offender was included in the drug and alcohol group; if the ADS classification was more severe than the DAST score, offenders were included in the primarily alcohol group; and if the offender's DAST classification was more severe than his ADS score, offenders were included in the primarily drugs group.

Substance abuse program exposure. CSC offers a variety of SAPs for offenders depending on the severity of the substance abuse problem: NSAP-high and moderate intensity and AOSAP-high and moderate intensity. Offenders were categorized into three distinct groups (completers, non-completers for offender reasons, and non-completers for administrative reasons) depending on their SAP status of completion for the first SAP they participated in. Exposure to SAP was examined by the program intensity (moderate or high).

Motivation for intervention. The level of motivation for intervention was determined using information gathered in the initial interview to evaluate whether the offenders were willing to participate in programs and interventions catered to their criminogenic needs. Motivation level is evaluated using several factors: a) acknowledgment of lifestyle and behavioural problems and the related consequences, namely incarceration; b) level of comfort with problem and its associated impact on the inmate's life; c) level of sensing responsibility for the problem; d) willingness to change (intentions of participating in correctional program); e) possession of necessary skills and knowledge required to change behaviour; f) level of external support from friends, family, or community members; and g) the offender's past history related to demonstrating change. Motivation level is measured on a three-point scale with "low" indicating the offender strongly rejects the need for change, "medium" indicating the offender does not fully recognize the need for change but is willing to participate in programs, and "high"

indicating the offender is ready to engage in programs and is self-motivated to change (CSC, 2007).

Statistical Analyses

Offenders who participated in high- or moderate-intensity NSAP or AOSAP and who were administered the CASA were first classified into three groups depending on their SAP status completion: completers, non-completers for offender reasons, and non-completers for administrative reasons. Differences between groups on demographic profile, substance abuse profile prior to incarceration, criminal history, SAP exposure, criminogenic needs, risk of recidivism, reintegration potential, and institutional charges were first examined with bivariate analyses. Correlates were chosen on the basis of their theoretical relevance and the literature. Relationships between groups and categorical variables were verified using Pearson Chi-Square. The effect size of significant associations was examined with Cramer's *V*. Values less than 0.10 were considered a weak association, 0.10 to 0.30 a small association, 0.30 to 0.50 a moderate association, and 0.50 or higher a strong association (AcaStat, 2012). In cases where significant differences were found across the three groups, post-hoc chi-square tests were performed. Differences between groups on continuous variables were analyzed using analysis of variance (ANOVA). Pairwise post-hoc comparisons were examined for statistically significant results. Since the sample size was large, the effect size was considered to be much more important than the *p*-value. For that reason, a Bonferonni correction was not employed for this report, but Cramer's *V's* are reported.

All variables associated with the group status at a *p*-value of .20 or less in bivariate analyses were considered in the final model. A logistic regression was employed to model the odds of SAP non-completion as a function of various covariates including demographic profile, criminal history, substance use history, SAP exposure, criminogenic needs, risk of recidivism, reintegration potential, and institutional charges. Variables that did not reach a significance level of less than .05 were removed one at a time until only variables that significantly predicted SAP non-completion were left in the model.

Results

Differences among Groups in Demographic Characteristics

Demographic characteristics were examined for the three groups and are presented in Table 2. Overall, bivariate analyses show that the groups differed significantly in terms of marital status, age at program commencement, and Aboriginal ancestry. Post-hoc analyses were conducted when significant differences between groups were found and are presented in Appendix A. A significantly higher proportion of non-completers for offender reasons were single (57%) compared to completers (52%). Non-completers for administrative reasons did not differ significantly from completers or non-completers for offender reasons in terms of marital status. Non-completers for offender reasons were significantly younger than completers with 59% of non-completers for offenders reasons below the age of 33, compared to 45% of completers. Non-completers for administrative reasons were not different from completers in terms of age. Compared to completers, a higher proportion of non-completers for offender reasons identified themselves as Aboriginal (17% vs. 21%).

Differences among Groups in Sentence Information and Institutional Charges

Table 3 presents sentence information and institutional charges for each group and results of bivariate analyses. The majority of the sample was serving a two- to four-year sentence. Very few non-completers for administrative reasons were serving sentences of five or more years or indeterminate sentences (3%) compared to 14% to15% in the other two groups. The majority of offenders in this study group were serving their first sentence.

There were some significant differences in the nature of the crimes. More than 69% of offenders who did not complete for offender reasons were incarcerated for violent crimes compared to 61% of completers and 47% of non-completers for administrative reasons. The proportion of offenders whose current sentence involved drug related crimes was significantly higher in the non-completers for administrative reasons group (41%) compared to non-completers for offender reasons and completers (29%). A larger proportion (38%) of non-completers for offender reasons had incurred serious charges while incarcerated than completers (19%) and non-completers for administrative reasons (19%).

Table 2

Offender Demographics by Substance Abuse Program Completion Status

Variables	Completers (*n* = 3,899)		Non-Completers (Offender Reasons) (*n* = 587)		Non-Completers (Administrative Reasons) (*n* = 106)		Overall (*N* = 4,592)		Cramer's *V*
	n	%	*n*	%	*n*	%	*n*	%	
Marital Status[a]									0.04**
Single	2,025	52	335	57	57	54	2,417	53	
Previously married	342	9	28	5	11	10	381	8	
Currently married/ Common-law	1,517	39	221	38	38	36	1,776	39	
Age at program (quartiles)									0.07***
19-26	884	23	203	35	26	24	1,113	24	
27-33	883	23	142	24	29	28	1,054	23	
34 -41	1,106	28	135	23	26	24	1,267	28	
42-73	1,026	26	107	18	25	24	1,158	25	
Aboriginal Ancestry									0.04*
Aboriginal	667	17	122	21	25	24	814	18	
Non-Aboriginal	3,232	83	465	79	81	76	3,778	82	

Note. [a]*n* = 18 missing.
*$p < .05$, **$p < .01$, ***$p < .001$.

Table 3

Offender Sentence Information and Institutional Charges during Current Sentence by Substance Abuse Program Completion Status

Variables	Completers (*n* = 3,899)		Non-Completers (Offender Reasons) (*n* = 587)		Non-Completers (Administrative Reasons) (*n* = 106)		Overall (*N* = 4,592)		Cramer's *V*
	n	%	*n*	%	*n*	%	*n*	%	
Sentence length									0.05***
2 or fewer years	670	17	76	13	29	27	775	17	
2 to 5 years	2,687	69	424	72	74	70	3,185	69	
More than 5 years or indeterminate sentence	542	14	87	15	3	3	632	14	
Sentence number									
1	2,557	66	393	68	77	73	3,027	66	
2	765	19	97	16	19	18	881	19	
3 or more	577	15	97	16	10	9	684	15	
Offence type for the current sentence									
Drug related	1,144	29	158	27	43	41	1,345	29	0.04*
Violent crime	2,376	61	409	70	50	47	2,835	62	0.08***
Charges for the current sentence									
Serious charges	725	19	223	38	20	19	968	21	0.16***
Minor charges	1,550	40	352	60	42	40	1,944	42	0.14***

*$p < .05$, ***$p < .001$.

Differences among Groups in Criminogenic Needs and Risk of Recidivism

Table 4 depicts the distributions and differences in need domains and risk of recidivism across groups. Overall, offenders who did not complete a SAP for offender reasons faired significantly worse than SAP completers in most need domains, including community functioning, attitude, associates, personal and emotional orientation, education and employment, and total needs. Sixty-seven percent of offenders who did not complete for offender reasons had completed grade 10 or less, compared to just over 50% of completers. A large proportion of the entire sample had a history of unstable jobs; however, 93% of non-completers for offender reasons reported unstable employment prior to arrest, which was significantly higher than for completers (82%). Additionally, non-completers for offender reasons had a significantly higher risk of recidivism and a lower reintegration potential compared to completers and the non-completers for administrative reasons. Together, these results show that offenders who do not complete a SAP for offender reasons present higher risk and higher needs than the other two groups, especially SAP completers.

Table 4

Criminogenic Needs and Risk of Recidivism by Substance Abuse Program Completion Status

Variables	Completers (*n* = 3,899)		Non-Completers (Offender Reasons) (*n* = 587)		Non-Completers (Administrative Reasons) (*n* =106)		Overall (*N* = 4,592)		Cramer's *V*
	n	%	*n*	%	*n*	%	*n*	%	
Community functioning [a]									0.05***
Asset/none	2,208	71	310	64	54	67	2,572	70	
Some needs	760	25	152	31	19	24	931	26	
Considerable needs	115	4	26	5	7	9	148	4	
Attitude [a]									0.06***
Asset/none	1,159	38	130	27	34	43	1,323	36	
Some needs	1,057	34	175	36	24	30.0	1,256	35	
Considerable needs	867	28	183	37	22	27	1,072	29	
Associates [a]									0.05**
Asset/none	860	28	107	22	26	33	993	27	
Some needs	1,324	43	202	41	30	37	1,556	43	
Considerable needs	899	29	179	37	24	30	1,102	30	
Marital /Family [a]									
Asset/none	1,852	60	280	58	50	63	2,182	60	
Some needs	828	27	143	29	16	20	987	27	
Considerable needs	403	13	65	13	14	17	482	13	
Personal /emotional [a]									0.07***
None	468	15	47	10	16	20	531	14	
Some needs	1,103	36	136	28	27	34	1,266	35	
Considerable needs	1,512	49	305	62	37	46	1,854	51	
Education /employment [a]									0.05***
Asset/none	1,034	33	167	34	26	33	1,227	34	
Some needs	1,816	59	257	53	46	57	2,119	58	
Considerable needs	233	8	64	13	8	10	305	8	
Substance Use [a]									
None	37	1	6	1	0	0	43	1	
Some needs	559	18	76	16	20	25	655	18	
Considerable needs	2,487	81	406	83	60	75	2,953	81	

Variables	Completers (n = 3,899)		Non-Completers (Offender Reasons) (n = 587)		Non-Completers (Administrative Reasons) (n =106)		Overall (N = 4,592)		Cramer's V
	n	%	n	%	n	%	n	%	
Has less than grade 10 or equivalent [b]									0.11***
	1,835	51	368	68	55	57	2,258	53	
Job history has been unstable [c]									0.10***
	3,064	82	523	93	88	87	3,675	84	
Overall Needs [d]									0.12***
Low	75	2	3	1	5	6	83	2	
Medium	1,131	35	97	19	29	34	1,257	32	
High	2,084	63	410	80	52	60	2,546	66	
Overall Risk of recidivism [e]									0.07***
Low	408	11	23	4	14	14	445	10	
Moderate	1,853	49	259	45	54	53	2,166	48	
High	1,538	40	292	51	34	33	1,864	42	
Reintegration Potential [f]									0.10***
Low	1,096	30	263	46	30	30	1,389	31	
Moderate	1,344	35	198	34	33	32	1,575	35	
High	1,342	35	112	20	39	38	1,493	34	

Note. [a] 941 missing for each need domain, [b] 318 missing for educational history, [c]203 missing for job history, [d]139 missing for overall needs, [e]117 missing for risk, [f]135 missing for reintegration potential.
**p < .01; ***p < .001.

Differences among Groups in History of Substance Use Prior to Incarceration

Table 5 presents proportions and comparisons in offenders' drug of choice, injection drug use, and substance abuse severity in the year prior to arrest across groups. Proportions of most frequently used drugs were largely stable between groups with no significant differences. Overall, cocaine was the most popular drug of choice, followed by cannabis and opiates. Almost 20% of the entire sample reported having injected drugs in the year prior to incarceration. Additionally, drug use and alcohol dependence did not differ significantly between groups in terms of severity; overall, most of the sample (57%) had a moderate to severe drug problem.

Table 5

Substance Use and Substance Abuse History by Substance Abuse Program Completion Status

Variables	Completers (*n* = 3,899)		Non-Completers (Offender Reasons) (*n* = 587)		Non-Completers (Administrative Reasons) (*n* =106)		Overall (*N* = 4,592)	
	n	%	*n*	%	*n*	%	*n*	%
Drug of Choice[a]								
Cannabis	1,067	27	160	27	33	31	1,260	27
Cocaine	1,481	38	201	34	33	31	1,715	37
Prescription Opiates	401	10	70	12	15	14	486	11
Heroin	115	3	24	4	3	3	142	3
Amphetamines	205	5	40	7	4	4	249	5
Other[b]	125	3	23	4	3	3	151	3
Injection drug use	729	18	132	23	19	18	880	19
Drug/Alcohol use severity								
Low drugs and alcohol	861	22	130	22	22	21	1,013	22
Moderate to severe alcohol	342	9	41	7	11	10	394	9
Moderate to severe drugs	2,211	57	349	60	64	60	2624	57
Moderate to severe alcohol and drugs	485	12	67	11	9	9	561	12

Note. [a] Percentages for drug of choice do not add up to 100 because of missing data: 505 missing for Completers, 69 missing for Non-Completers (Offender Reasons), and 15 missing for Non-Completers (Administrative Reasons); [b]The "other" category includes steroids, performance enhancers, hallucinogens, inhalants, prescribed drugs (benzodiazepines, tranquilizers, barbiturates), and methadone.

Differences among Groups in Substance Abuse Program Exposure and Motivation for Intervention

Table 4 presents SAP exposure and motivation for intervention by SAP completion status. The majority of all groups attended a moderate intensity SAP; however, significant differences between groups were found in the distribution of program intensity. There were more non-completers for offender reasons in the high-intensity program (25%) compared to completers (16%) and non-completers for administrative reasons (10%).

The groups also differed significantly with respect to motivation for intervention. In particular, the non-completers for offender reasons had a significantly higher proportion of low motivation for intervention (16%) compared to completers (7%) and non-completers for administrative reasons (3%).

Table 6

Substance Abuse Program Exposure and Motivation for Intervention by Substance Abuse Program Completion Status

Variables	Completers (n = 3,899)		Non-Completers (Offender Reasons) (n = 587)		Non-Completers (Administrative Reasons) (n = 106)		Overall (N = 4,592)		Cramer's V
	n	%	*n*	%	*n*	%	*n*	%	
Current SAP intensity									0.09***
Moderate intensity	3,290	84	439	75	95	90	3,824	83	
High intensity	609	16	148	25	11	10	768	17	
Motivation for intervention [a]									0.10***
Low	269	7	92	16	3	3	364	8	
Moderate	2,641	70	415	72	76	74	3,132	70	
High	873	23	66	12	23	23	962	22	

[a]Motivation missing for 134.
***$p < .001$.

Logistic Regression Analysis Distinguishing SAP Completers and SAP Non-completers for Offender Reasons

The analyses thus far demonstrate that non-completers for offender reasons differ from completers on a variety of variables, including demographic variables, sentence and offence-related variables, risk, and need. Similarly, non-completers for offender reasons differ from non-completers for administrative reasons on sentence and offence-related variables, risk, and need. In contrast, completers and offenders who did not complete a SAP for administrative reasons differed on few variables. Due to this latter finding, and due to the small sample size of offenders who did not complete a SAP for administrative reasons, it was decided to omit non-completers for administrative reasons from the logistic regression, examining only completers and non-completers for offender reasons.

A multiple logistic regression was used to characterize the relationship between demographic characteristics, criminal history, institutional charges, criminogenic needs, alcohol dependence, SAP type, and SAP status of completion. Table 7 presents the adjusted odds ratios (AOR) and 95% confidence intervals (CI). Results show that compared to a SAP non-completer for offender reasons, SAP completers were more likely to be older, to have a moderate dependence on alcohol, and to have a high motivation for intervention. SAP non-completers for offender reasons were more likely than completers to be serving their current sentence for having committed a violent crime, to have incurred a serious charge while incarcerated, to have needs in the areas of attitude and personal/emotional orientation, to have a low education level, to have an unstable job history, and were more likely to have participated in a moderate intensity SAP.

Table 7

Adjusted Odds Ratio and 95% Confidence Intervals for Logistic Regression Distinguishing Completers and Non-Completers for Offender Reasons (n = 4,486)

Variables	Adjusted odds ratios	95% Confidence Intervals
Age at program (quartiles)***		
≤ 26 (ref)		
27-33	0.63	0.48-0.83
34 -41	0.54	0.41-0.71
42-73	0.46	0.34-0.63
Offence type for the current sentence		
Violent crime*	1.31	1.04-1.65
Serious charge***	1.93	1.55-2.34
Attitude*		
Asset/none (ref)		
Some needs	1.43	1.10-1.85
Considerable needs	1.43	1.09-1.89
Personal/Emotional*		
Asset/none (ref)		
Some needs	1.18	0.83-1.69
Considerable needs	1.55	1.10-2.18
Education		
Has less than grade 10 or equivalent ***	1.84	1.49-2.28
Job history		
Job history has been unstable**	1.89	1.30-2.77
Alcohol dependence**		
None/low (ref)		
Moderate	0.60	0.42-0.84
Substantial/Severe	0.81	0.60-1.16
Program intensity***		
Moderate intensity (ref)		
High intensity	1.63	1.29-2.07
Motivation for intervention**		
Low (ref)		
Moderate	0.60	0.44-0.83
High	0.47	0.30-0.72

*$p < .05$, **$p < .01$, ***$p < .001$.

Discussion

The purpose of the present study was to explore and distinguish the features of offenders who complete substance abuse programs, those who do not complete for personal (offender) reasons, and those who do not complete for administrative reasons in terms of socio-demographic characteristics, patterns of substance use prior to incarceration, type of substance abuse program exposure, institutional behavior, and criminal history. Unlike previous studies on program non-completion in the correctional setting, this study specifically examined substance abuse program participants.

Results pointed to consistencies in the literature in terms of the typologies of completers versus non-completers, as well as the proportion of offenders who completed programming. In the present study, almost 85% of offenders enrolled in substance abuse programming completed that programming. This proportion is similar to that reported in other studies (e.g., McMurran & Theodosi, 2007). A distinction is made in this study between the different reasons for program attrition, so as to establish a meaningful comparison between those who do not complete for offender reasons and those who cannot complete due to external circumstances. Results showed heterogeneity among groups of non-completers. Offenders who did not complete a SAP for offender reasons presented a higher risk profile compared to non-completers for administrative reasons. Moreover, offenders who did not complete their first SAP due to offender reasons differed from those who completed it on a number of variables. Fewer differences were found between completers and offenders who did not complete due to administrative reasons, which is consistent with other research on this topic (e.g., Nunes & Cortoni, 2006b).

Non-completers for offender reasons differed from completers in demographic characteristics. Notably, non-completers for offender reasons were more likely to be younger, have a lower education level, and be more likely to report an unstable job history. Regarding their criminal histories, they were more likely to be serving their current sentence for having committed a violent crime, and more likely to have incurred serious charges while incarcerated. This specific profile of substance abuse treatment non-completers is consistent with other studies carried out in diverse settings and among various populations (Agosti et al. 1996; Brown, 2010; Butzin et al., 2002; Cortoni, Nunes & Latendresse, 2006; Evans et al., 2009; Hanson & Bussiere 1998; Hiller et al., 1999; McMurran & McCulloch 2007; McMurran & Theodosi 2006; Nunes &

Cortoni 2006a, 2006b; Saum et al., 2001; Wormith & Olver 2002).

More specifically, non-completers for offender reasons were more likely to be less educated than the other study groups. In a study looking at reasons for SAP non-completion, many offenders who dropped out of a SAP reported doing so as a result of comprehension problems, difficulty remembering the material, and finding class settings too overwhelming (Dursun, 2012). Although data on mental health and learning disabilities was not available for the present study, these results indicate that this group may have more difficulty in this type of class setting. Alternatively, it is possible that offenders who drop out of correctional programs are simply likely to prefer a different learning style. For example, offenders who have difficulty learning in groups may find it challenging to sit through the sessions of a SAP and, therefore, present a different responsivity to programs. A recent report by CSC noted increases in the proportion of offenders with special needs, including intellectual disabilities/cognitive impairment, Fetal Alcohol Spectrum disorders, learning disabilities, and mental disorders (CSC, 2010). This report also highlights the need to maximize learning potential and engagement in programs by providing concrete skills to accommodate offenders' special needs (CSC, 2010). These adjustments to program delivery are central to overcoming common problems encountered by offenders in programs, which may lead to attrition. Information on individual learning styles was not included in the current study; however, it could be an area for future research to examine.

Important differences were found between non-completers for offender reasons and completers in terms of risk, need, and motivation. Non-completers were more likely to have a high risk of recidivism and higher needs in various domains, and were less likely to exhibit a high level of motivation for intervention. Similarly, offenders who were expelled or dropped out of a SAP exhibited a different profile from offenders who failed to complete a program for administrative reasons. In terms of criminal history, non-completers for offender reasons were more likely than non-completers for administrative reasons to have a longer sentence, to have committed a violent crime, and to have incurred serious or minor charges during their current sentence. There were also significant differences between types of non-completion in terms of risk, need, and motivation. Non-completers for offender reasons were more likely to have a high risk of recidivism and higher needs in various domains, and less likely to have high reintegration potential and display a high level of motivation for intervention. These results corroborate those

found by Nunes and Cortoni (2006a, 2006b) where they reported that offenders who dropped out or were expelled from their program were generally higher risk, had higher criminogenic need, and had lower motivation levels for intervention, as compared to all other groups of non-completers. They suggested that program dropouts presented the greatest reintegration challenge in terms of risk and needs, making them a high priority for treatment.

The percentage of non-completers due to offender reasons enrolled in NSAP-High was significantly higher than for completers or non-completers for administrative reasons. This finding suggests that offenders who are most in need of help with problematic substance use are not reaping the benefits from programming since they are not being retained. This is inconsistent with previous findings that have shown an association between greater levels of problem severity, motivation for treatment, and staying in substance abuse treatment longer (Hiller et al., 2009).

The differences in the socio-demographic characteristics between the completers and non-completers for offender reasons suggest the need for adaptations in case management for the offenders who drop out of programs. According to these results, non-completers for offender reasons present behavioural problems and consistently had a greater proportion of offenders identified as having considerable criminogenic need in the domains of attitude and personal/emotional. The results show that those who drop out or are expelled may not be a good comparison group for completers because they differ on a whole host of variables that existed before they even joined the program. More specifically, they were more likely to commit violent crime, are younger at incarceration, are less educated, have unstable job histories, and are less motivated to change. Perhaps a closer look should be taken into these offenders' case management to provide interventions in the domains of motivation, risk management, and education with the intention of keeping them in programs. Preparatory programs, such as the primer for the Integrated Correctional Program Model (ICPM), might be beneficial in helping offenders requiring closer supervision and attention to prepare for a SAP. The ICPM primer, which is delivered at intake to offenders serving four years or less, serves to identify an offender's risk factors, demystify the nature and purpose of correctional programs and provide offenders with the basic skills needed to adapt to living in the institution (CSC, 2013b). According to the specific responsitivity principle, effective treatment takes into account offenders' unique characteristics that may impact their ability to learn from their program (Bonta

& Andrews, 2007). By creating a profile of offenders who are susceptible to program attrition, program delivery could be improved by targeting the offenders who are higher risk for drop out with the right interventions in a way that supports their different needs. In line with this theory, CSC has developed a responsivity portal to increase staff's ability to effectively engage, motivate, and provide interventions to offenders in their care. This portal, which is accessible to all CSC staff, provides information on identifying and accommodating the unique challenges offenders might bring to improve the effectiveness of interventions. As part of ICPM, CSC has also developed a motivation module, which is a structured, systematic intervention for offenders who refuse programs, drop out of programs, or require assistance to complete programs (CSC, 2013b). This module also provides program staff with dedicated opportunities to enhance offender motivation and/or enhance the relevancy of program material for offenders who need assistance to understand or apply program content. The motivational module, together with the responsitivity portal, will help CSC to provide offenders with effective interventions.

Limitations and Future Directions

There are some limitations to the present study that should be considered. The study aimed to compare characteristics of completers versus non-completers but also endeavoured to reflect the important differences in types of attrition: administrative versus offender reasons. However, due to the small sample of non-completers for administrative reasons (n = 106), this group could not be included in the regression analysis. Bivariate results from this group must be taken with caution. As well, since this study examined only men offenders, the results cannot be generalized to the entire population of offenders.

Only data from the first SAP attended was used in this study. Knowing offenders' completion status for subsequent SAPs may have helped clarify the differences between completers and non-completers. For example, it is unknown whether offenders who fail to complete their first SAP for administrative reasons but go on to complete their second SAP differ from offenders who fail to complete multiple SAPs for administrative reasons. A future study could examine this issue.

Studies evaluating substance abuse programs often compare completers to non-completers to assess effectiveness. Given the differences found here between the study groups, future studies examining the effectiveness of programs should be cautious when comparing post-release outcomes between program completers and non-completers and consider the reasons for

non-completion. It is not yet clear whether non-completers for administrative reasons differ from completers in terms of risk, need, and motivation for treatment. Our study suggests that they are more similar to completers in these characteristics; however, due to our small sample size, these results must be interpreted with caution. Nevertheless, it seems that non-completers for administrative reasons may be a more appropriate group when comparing program completers on post-release outcomes, since the main difference between the two groups is whether they completed the program.

Conclusions

Substance abuse problems are widespread among Canadian federal offenders and the presence of a substance abuse problem impacts the likelihood of an offender successfully reintegrating into society. Existing programs are known to be effective in reducing recidivism and future reconvictions; however, these positive effects are greatly reduced in the cases where the offender does not complete the program, independent of the many other variables that differentiate program completers from non-completers (e.g., Doherty et al., in press; Ternes et al., in press). This study provides a profile of offenders who did not complete a SAP due to personal reasons, dropping out, or suspension in order to facilitate the identification of offenders most at risk of not completing their program. The findings have implications with respect to strategies used to retain offenders in correctional programs.

References

Agosti, V., Nunes, E., & Ocepeck-Welikso, K. (1996). Patient Factors Related to Early Attrition from an Outpatient Cocaine Research Clinic. *The American Journal of Drug and Alcohol Abuse, 22*(1), 29-39.

Australian Institute of Health and Welfare (2010). *The health of Australia's prisoners 2009.* (Cat. No. PHE 123). Canberra, Australia: AIHW.

Boland, F. J., Henderson, K., &Baker, J. (1998). Case need domain: Substance abuse assessment review. *Forum on Corrections Research, 10,* 32-34.

Bonta, J., & Andrews, D. A. (2007). *Risk-Need-Responsivity model for offender assessment and rehabilitation.* Ottawa: ON. Public Safety Canada (Accessed September 2012) http://www.publicsafety.gc.ca/res/cor/rep/risk_need_200706-eng.aspx

Brown, R. (2010). Associations with substance abuse treatment among drug court participants. *Substance Use & Misuse, 45*(12), 1874-1891.

Brown, S.L. & Motiuk, L.L. (2005). *The Dynamic Factors Identification and Analysis (DFIA) Component of the Offender Intake Assessment (OIA) Process: A Meta-Analytic, Psychometric and Consultative Review* . (R-164). Ottawa, ON: Correctional Service of Canada.

Butzin, C. A., Saum, C. A., & Scarpitti, F. R. (2002). Factors associated with completion of a drug treatment court diversion program. *Substance Use and Misuse, 37*(12-13), 1615-1633.

Cann, J., Falshaw, L., Nugent, F., & Friendship, C. (2003). *Understanding what works: Accredited cognitive skills programmes for adult men and young offenders.* (Home Office Research Findings No. 226). London: Home Office.

Correctional Service Canada (2007). Commissioner's directive. Correctional planning and criminal profile (705-6). Ottawa, ON: Correctional Service of Canada.

Correctional Service of Canada. (2010). *The changing federal offender population: Highlights 2009.* Ottawa, ON: Correctional Service of Canada.

Correctional Service Canada. (2013a). *Integrated Correctional Program Model: Multi-Target Programs.* (Accessed November 2013). Retrieved from http://infonet/NR/rdonlyres/7801B1AE-D75C-485D-AF36-F5B571B71D11/0/ICPM_MTP_E.pdf/

Correctional Service Canada (2013b). *Revitalizing Correctional Programs to Enhance the Correctional Service of Canada's Contributions to Public Safety: Moving towards an Integrated Correctional Program Model.* (Accessed April 2014). Retrieved from http://infonet/NR/rdonlyres/1A2EF5C5-0C88-4DE3-929B-5389E007ED9D/0/ICPM_IP_E.pdf/

Cortoni, F., Nunes, K., & Latendresse, M. (2006). *An examination of the effectiveness of the violence prevention program.* (R-178). Ottawa, ON: Correctional Service of Canada.

Doherty, S., Ternes, M., & Matheson, F. (in press). *An Examination of the Effectiveness of the National Substance Abuse Program High Intensity (NSAP-H) on Institutional Adjustment and Post-Release Outcomes.* Report submitted for publication.

Dursun, A. (2012*). Predicting drop out from offender substance abuse treatment and reasons for non-completion using archival data* (unpublished honours thesis). Carleton University, Ottawa, ON.

Evans, E., Hser, Y., & Huang, D. (2009). Employment Services Utilization and Outcomes among Substance Abusing Offenders Participating in California's Proposition 36 Drug Treatment Initiative. *Journal of Behavioral Health Services & Research, 37*(4), 461-476.

Gendreau, P., Goggin, C., Cullen, F. T., & Andrews, D. A. (2000). The effects of community sanctions and incarceration on recidivism. *Forum on Corrections Research, 12,* 10-13.

Grant, B. A., Kunic, D., MacPherson, P., McKeown, C., & Hansen, E. (2003). *The High Intensity Substance Abuse Program (HISAP): Results from the pilot programs* (R-140). Ottawa, ON: Correctional Service of Canada.

Hanson, R. K., & Bussiere, M. T. (1998). Predicting relapse : A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*(2), 348-362.

Hiller, M. L., Knight, K., & Simpson, D. D. (1999). Risk Factors that Predict Drop-out from corrections-based treatment for drug abuse. *The Prison Journal, 79,* 411-430.

Hiller, M. L., Narevic, E., Webster, J. M., Rosen, P., Staton, M., Leukefeld, C., Garrity, T. F., & Kayo, R. (2009). Problem severity and motivation for treatment in incarcerated substance abusers. *Substance Use & Misuse, 44*(1), 28-41.

Kunic, D. (2006). The Computerized Assessment of Substance Abuse (CASA). *Forum on Corrections Research, 18*(1), 19-23.

Kunic, D., & Varis, D. D. (2009). *The Aboriginal Offender Substance Abuse Program (AOSAP):*

Examining the effects of successful completion on post-release outcomes. (R-217). Ottawa, ON: Correctional Service of Canada.

McMurran, M., & McCulloch, A., (2007). Why don't offenders complete treatment? Prisoners' reasons for non-completion of a cognitive skills programme. *Psychology, Crime and Law, 13*(4), 345-354.

McMurran, M., & Theodosi, E. (2007). Is treatment non-completion associated with increased reconviction over no treatment? *Psychology, Crime & Law, 13*(4), 333-343.

Motiuk, L.L. (1997). Classification for Correctional Programming : The Offender Intake Assessment (OIA) process. *Forum on Corrections Research,* 9(1), 18-22.

Motiuk, L. & Nafekh, M. (2001). Using reintegration potential at intake to better identify safe release candidates. *Forum on Corrections Research,* 13, 11-13.

Motiuk, L., Cousineau, C., & Gileno, J. (2005). *The Safe Return of Offenders to the Community: Statistical Overview.* Ottawa, ON: Correctional Service of Canada.

Nafekh, M. & Motiuk, L. (2002). *The Statistical Information on Recidivism – Revised 1 (SIR-R1) Scale: A Psychometric Examination.* (R-126). Ottawa, ON: Correctional Service of Canada.

Nunes, K. L., Cortoni, F. (2006a). *Estimating Risk of Dropout and Expulsion from Correctional Programs.* (R-177). Ottawa, ON: Correctional Service of Canada.

Nunes, K. L., & Cortoni, F. (2006b). *The Heterogeneity of Treatment Non-Completers.* (R-176). Ottawa, ON: Correctional Service of Canada.

Saum, C. A., Scarpitti, F. R,, & Robbins, C. (2001). Violent offenders in drug court. *Journal of Drug Issues, 31,* 107-128.

Skinner, H. A. (1982). The Drug Abuse Screening Test. *Addictive Behaviours, 7,* 363-371.

Skinner, H. A., & Horn, J. L. (1984). *Alcohol Dependence Scale (ADS): Users Guide.* Toronto, ON: Addiction Research Foundation.

Ternes, M., Doherty, S., & Matheson, F. (in press). *An Examination of the Effectiveness of the National Substance Abuse Program Moderate Intensity (NSAP-M) on Institutional Adjustment and Post-Release Outcomes.* Report submitted for publication.

UK Drug Policy Commission. (2008). *Reducing Drug Use, Reducing Reoffending.* London, UK: UK Drug Policy Commission.

Weekes, J. R., Millson, W. A., & Lightfoot, L. O. (1995). Factors influencing the outcome of offender substance abuse treatment. *Forum on Corrections Research, 7*(3), 8-11.

Weekes, J. R., Moser, A. E., Ternes, M., & Kunic, D. (2009). *Substance Abuse Among Male Offenders*. (RS-09-02). Ottawa, ON: Correctional Service of Canada.

Wormith, J. S., & Olver, M. E. (2002). Offender treatment attrition and its relationship with risk, responsivity, and recidivism. *Criminal Justice and Behavior, 29*, 447-471.

Yudko, E., Lozhkina, O., & Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *Journal of Substance Abuse Treatment, 32*(2), 189-198.

Appendix A: Post-hoc chi-square tests

Table A1

Post-hoc chi-square tests for offenders' demographics across groups

Offender Demographics	Non-completers (Offender reasons) vs. Completers	Non-completers (Administrative reasons) vs. Completers	Non-completers Administrative reasons) vs. Non-completers (Offender reasons)
Marital Status	$X^2(2,4468)= 12.68$, $p=.0018$, $V= 0.05$	$X^2(2,3990)= 0.61$, $p=.73$, $V= 0.01$	$X^2(2,690)= 5.25$, $p=.0726$, $V= 0.08$
Age at program (quartiles)	$X^2(3,4486)= 48.92$, $p<.0001$, $V= 0.10$	$X^2(3,4005)= 1.99$, $p=.57$, $V= 0.02$	$X^2(3,693)= 4.55$, $p= .21$, $V= 0.08$
Aboriginal ancestry	$X^2(1,4447)= 4.66$, $p= .03$, $V= 0.03$	$X^2(1,3969)= 3.04$, $p= .08$, $V= 0.03$	$X^2(1,688)= 0.44$, $p= .51$, $V= 0.03$
Has less than grade 10 or equivalent	$X^2(1,4178)= 55.04$, $p<.0001$, $V= 0.11$	$X^2(1,3729)= 1.72$, $p=.19$, $V= 0.02$	$X^2(1,641)= 3.81$, $p=.05$, $V= -0.08$
Job history has been unstable	$X^2(1,4288)= 39.14$, $p<.0001$, $V= 0.10$	$X^2(1,3825)= 1.60$, $p=.21$, $V= 0.02$	$X^2(1,665)= 3.60$, $p=.06$, $V= -0.07$

Table A2

Post-hoc chi-square tests for current offence information and program intensity across groups

Offence information current sentence	Non-completers (Offender reasons) vs. Completers	Non-completers (Administrative reasons) vs. Completers	Non-completers Administrative reasons) vs. Non-completers (Offender reasons)
Sentence length	$X^2(2,4486)= 6.62$, $p=.036$, $V= 0.04$	$X^2(2,4005)= 15.43$, $p=.0004$, $V= 0.06$	$X^2(2,693)= 22.32$, $p<.0001$, $V= 0.18$
Offence type			
Drug related	$X^2(1,4486)= 1.46$, $p= .23$, $V= -0.02$	$X^2(1,4005)= 6.24$, $p=.01$, $V= 0.04$	$X^2(1,693)= 8.12$, $p= .0044$, $V= 0.11$
Violent offence	$X^2(1,4486)= 16.55$, $p< .0001$, $V= 0.06$	$X^2(1,4005)= 8.19$, $p=.00421$, $V= -0.04$	$X^2(1,693)= 20.34$, $p< .0001$, $V= -0.17$
Charges current sentence			
Minor charge	$X^2(1,4486)= 85.34$, $p<.0001$, $V= 0.14$	$X^2(1,4005)= 0.0007$, $p=.98$, $V= -0.0004$	$X^2(1,693)= 15.15$, $p<.0001$, $V= -0.15$
Serious charge	$X^2(1,4486)= 115.15$, $p<.0001$, $V= 0.16$	$X^2(1,4005)= 0.005$, $p=.94$, $V= 0.001$	$X^2(1,693)= 14.42$, $p=.0001$, $V= -0.14$
Program intensity	$X^2(1,4486)= 33.48$, $p<.0001$, $V= 0.09$	$X^2(1,4005)= 2.17$, $p=.14$, $V= -0.02$	$X^2(1,693)= 11.18$, $p=.0008$, $V= -0.13$

Table A3

Post-hoc chi-square tests for criminogenic needs, risk of recidivism, and motivation for intervention across groups

Substance use	Non-completers (Offender reasons) vs. Completers	Non-completers (Administrative reasons) vs. Completers	Non-completers Administrative reasons) vs. Non-completers (Offender reasons)
Community functioning	$X^2(2,3571)= 13.6$, $p=.0011$, $V= 0.06$	$X^2(2,3163)= 5.31$, $p=.07$, $V= 0.04$	$X^2(2,568)= 2.80$, $p=.25$, $V= 0.07$
Attitudes	$X^2(2,3571)= 26.91$, $p<.0001$, $V= 0.09$	$X^2(2,3163)= 0.92$ $p=.63$, $V= 0.02$	$X^2(2,568)= 8.57$, $p=.01$, $V= 0.12$
Associates	$X^2(2,3571)= 13.67$, $p=.001$, $V= 0.06$	$X^2(2,3163)= 1. 15$, $p=.56$, $V= 0.02$	$X^2(2,568)= 4.40$, $p=.11$, $V= 0.09$
Personal emotional	$X^2(2,=3571)= 31.58$, $p<.0001$, $V= 0.09$	$X^2(2,3163)= 1.40$, $p=.50$, $V= 0.02$	$X^2(2,568)= 10.51$, $p=.005$, $V= 0.14$
Education and employment	$X^2(2,3571)= 18.53$, $p<.0001$, $V= 0.07$	$X^2(2,3163)= 0.66$, $p=.72$, $V= 0.01$	$X^2(2,568)= 0.89$, $p=.64$, $V= 0.04$
Total needs	$X^2(2,4351)= 56.12$, $p<.0001$, $V= 0.11$	$X^2(2,3880)= 5.39$, $p=.07$, $V= 0.04$	$X^2(2,675)= 33.98$, $p<.0001$, $V= 0.22$
Risk of recidivism	$X^2(2,4373)= 37.17$, $p<.0001$, $V= 0.09$	$X^2(2,3901)= 2.43$, $p=.30$, $V= 0.03$	$X^2(2,676)= 21.61$, $p<.0001$, $V= 0.18$
Reintegration potential	$X^2(2,4355)= 83.64$, $p<.0001$, $V= 0.14$	$X^2(2,3884)= 0.50$, $p=.78$, $V= 0.01$	$X^2(2,675)= 19.06$, $p<.0001$, $V= 0.17$
Motivation for intervention	$X^2(2,4356)= 79.37$, $p<.0001$, $V= 0.14$	$X^2(2,3885)= 2.79$, $p=.25$, $V= 0.03$	$X^2(2,675)= 18.62$, $p<.0001$, $V= 0.17$