

————— **Research Report** —————

**An Examination of the Effectiveness of  
the Violence Prevention Program**

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**An Examination of the Effectiveness of the Violence Prevention Program**

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May 2006

## Executive Summary

This research examined the effectiveness of the Violence Prevention Program (VPP) in improving institutional adjustment and reducing violent recidivism among male offenders. The VPP is an institutionally-based correctional program for incarcerated federal male offenders deemed to be persistently violent offenders. The VPP defines a persistently violent offender as one who has previously committed a minimum of two violent offences and who is at high risk to commit future violent crimes, based on the Statistical Information on Recidivism-R1 scale (SIR-R1; Nafekh & Motiuk, 2002), or based on a high-risk rating if no SIR-R1 score was available. The goal of the VPP is to reduce the likelihood of violent recidivism among the male offender population. The VPP focuses on aspects such as motivation enhancement, violence awareness, anger control, problem solving, social attitudes, positive relationships, conflict resolution, positive lifestyles, and self-control, using a skills-based intervention approach with an emphasis on relapse prevention.

The present research consisted of an examination of the impact of the VPP on institutional misconduct and post-release failures and recidivism. For the purpose of this study, recidivism was defined as the commission of a new offence, and violent recidivism was defined as the commission of a new violent offence. Analyses first examined results for all VPP participants, and then were conducted only on the subgroup of Aboriginal offenders in the VPP.

Results show that completion of the VPP was related to improved institutional behaviour. Specifically, offenders who completed the VPP had significantly fewer major institutional misconduct charges in the 6-month and 1-year period following completion of the VPP when compared to the corresponding pre-program periods. Similar results, but with more modest effects, were found when only the Aboriginal offenders were examined.

To examine the impact of the VPP on recidivism, treated offenders were compared to a non-treated matched comparison group using a series of Cox regressions. Cox regression analyses allow for the examination of the relationship between VPP participation and reduced recidivism, while controlling for other variables that could also influence recidivism such as length of time in the community, other program participation, and risk. Cox regression analyses yield hazard ratios, also known as risk ratios. The hazard ratio indicates the increase in the rate of recidivism in one group compared to the other. Results showed that offenders who had completed the program had significantly lower rates of recidivism than the non-treated offenders. Specifically, non-treated offenders had 1.36 times greater rates of failures, 1.36 times greater rates of any recidivism, and 2.10 times greater rates of violent recidivism than offenders who had completed the VPP. In addition, offenders who had started but failed to finish the VPP had 1.69 greater rates of failures, 2.22 times greater rates of any recidivism, and 4.25 times greater rates of violent recidivism than offenders who had completed the program.

When only the Aboriginal offenders were considered, a similar pattern of results was observed. For any recidivism and any failure, the effects were of a similar magnitude to those found with the entire sample although they did not reach statistical significance, likely because of the reduced sample size (i.e., reduced statistical power). In terms of violent recidivism, compared to the Aboriginal offenders who completed the VPP, untreated Aboriginal offenders had 3.33 times greater rates of new violent offences. Similarly, Aboriginal offenders who had started but failed to complete the VPP had 3.92 times greater rates of violent recidivism compared to treated Aboriginal offenders.

Overall, the present study provides evidence that the VPP is an effective intervention for reducing violent recidivism among high-risk and high-need violent offenders.

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## INTRODUCTION

Violence in the form of illegitimate use of force towards another outrages citizens morally and leaves victims physically, psychologically, and/or socially harmed (Blackburn, 1993). Additionally, offenders with violent offence histories are significantly more likely to commit new violent offences (Serin & Preston, 2001). The rationale for engaging repeat violent offenders in treatment would therefore appear self-evident. In the last two decades, evidence has moved away from the "nothing works" (Martinson, 1974) perspective to repeatedly demonstrating that even the highest risk offenders can benefit from effective correctional treatment programs (Andrews & Bonta, 2003).

Perhaps due to the inevitable release of most incarcerated violent offenders and their potential risk to recidivate in a violent manner, these individuals have increasingly become the focus of the Correctional Service Canada's (CSC) efforts in its aim to curb violence and to protect Canadian society. As a result, CSC has increased its focus upon violence-related programs. Specifically, in 1999, CSC developed the Violence Prevention Program (VPP). In 2000, the program received international accreditation.

The primary goal of the VPP is to reduce the likelihood of violent recidivism among high-risk, male offenders. The VPP strives to achieve this goal by providing offenders who take part in the program with the skills necessary to identify their past negative lifestyles and to heighten their awareness of violence. Further, the program is designed to motivate participants to challenge their use of violence, to change their antisocial and pro-violence attitudes and beliefs, and to develop a pro-social lifestyle. Additional objectives include the development of improved anger control, problem solving and self-management skills, and relapse prevention.

The VPP is divided into three phases: intake screening, intervention, and post-treatment assessment. The intake screening phase entails the offender taking part in an individual structured interview and the completion of the VPP psychometric test battery. The intervention phase consists of 10 modules presented over the course of 94 two-hour group sessions, at the rate of six sessions per week. The modules are: Making Change (6 sessions); Violence Awareness (12 sessions); Anger Control (12 sessions); Solving Problems (10 sessions); Social Attitudes (10 sessions); Positive Relationships (8



sessions); Conflict Resolution (8 sessions); Positive Lifestyles (8 sessions); Self-Control (8 sessions); and Violence Prevention (12 sessions). Finally, the post-treatment assessment phase entails the completion of the post-treatment assessment battery by the participants, a review of each participant's relapse prevention plan, a structured exit interview, and an individual session wherein the final program progress report is reviewed with the offender and his Parole Officer.

The VPP is based on social learning and social information-processing theories. The central premise of the VPP is that an individual's past violent behaviours have been learned through modelling, reinforcement, and/or cognitive mediation. Consequently, the VPP aims to achieve attitudinal and behavioural change within a participant and to increase his sense of responsibility and control. For example, the program teaches self-awareness, generic problem solving and self-management. Additionally, the VPP provides models of pro-social attitudes, relationships, and conflict resolution. The integrity of the VPP is maintained by adhering to established selection and participation criteria, as well as a standardized manual. In addition, staff members are trained in the delivery of the program, in principles of effective interventions, and in standards of professional conduct.

### **Purpose**

The goal of this study was to examine whether participation in the VPP would lead to reduced rates of violence. It was hypothesized that offenders who completed the VPP would demonstrate improved behaviour within the institutional setting, and would show lower rates of failures and recidivism once released into the community.

## METHOD

### Participants

The present investigation compared male federal offenders who had participated in the VPP to a comparison group of offenders who had not participated in the program. The VPP sample consisted of the total number of offenders who participated in the revised 94-session VPP with a completion date prior to October 31, 2004. That date was chosen as the cut-off point in order to allow for release potential and follow-up time. Due to variability in program content and delivery, VPP participants who had completed the program at the Special Handling Unit (SHU) (N=34) or who had completed the initial 120-session version (N=55) of the VPP were not included in the study. A total of 500 VPP participants were identified with these parameters.

The comparison group was selected using the propensity scores method. A computerized propensity score-matching algorithm was used to match VPP participants to a comparison group selected from the entire population of male offenders that were in CSC's custody between 1999 and 2004. The matching routine included the SAS® LOGISTIC procedure to create a propensity score or probability of receiving treatment (Parsons, 2000), followed by a user-written macro program to match the comparison group to the VPP participants based on propensity scores. For this study, the variables entered into the equation were: ratings on the Statistical Information on Recidivism – Revised 1 scale (SIR-R1; Nafekh & Motiuk, 2002) group (or risk level for Aboriginal offenders); need level; race (Aboriginal or other); two or more convictions for violent offences; and age. A total of 466 offenders were included in the comparison group.

The average age of the VPP participants was 30.30 years (standard deviation [*SD*] = 7.88) and ranged from 17 to 57. Similarly, the average age for the comparison group was 30.32 years (*SD* = 7.63) and ranged from 17 to 57. The mean sentence lengths for the VPP and the comparison groups were 7.12 years (*SD* = 6.80) and 5.20 years (*SD* = 5.70), respectively. Additional between-group comparisons are detailed in the Results section.

## **Data Source**

The data for this study were collected from the Offender Management System (OMS) and from the Canadian Police Information Centre (CPIC) records. The OMS is an automated database used by the Correctional Service of Canada to manage information on federal offenders. The offender case files include demographic information, criminal history, static and dynamic risk assessment results, including SIR-R1 scores, and behavioural indicators related to institutional performance. These data provide meaningful research variables related to the assessment of program effectiveness. The CPIC records provide the full history of criminal charges, convictions, and dispositions for all offenders in Canada.

## ***Demographic & Risk Variables***

Demographic variables and risk variables were drawn from the Offender Intake Assessment and Correctional Planning results (OIA; Motiuk, 1997; Standard Operating Practice 700-04, Annex 700-04B). The OIA is a comprehensive and integrated evaluation system of offenders in use by the Correctional Service Canada since 1994. It examines a broad range of demographic and risk factors pertaining to offenders at their time of admission. The demographic variables included in this study were age, race, and marital status at time of intake.

One of the two components of the OIA, the Static Factors Assessment (SFA), provides comprehensive information pertaining to the criminal history and risk factors of each offender. The SFA yields an overall level of static risk [low, medium, or high], assigned to offenders at their time of admission. The SIR-R1 is included as part of the SFA. The scale is a 15-item checklist with a range of scores from -27 (i.e., high risk) to +30 (i.e., low risk). In addition to raw risk scores, a grading system for quantifying offenders' risk level was devised. Specifically, offenders are allocated to a level of risk on a 5-point scale: "Very good" (least likely to recidivate) (+6 to +27), "Good" (+1 to +5), "Fair" (-4 to 0), "Poor" (-8 to -5), and "Very Poor" (most likely to recidivate) (-30 to -9).

As CSC's policy prevents the application of the SIR-R1 to Aboriginal offenders (Standard Operating Practice 700-04), the risk level for the Aboriginal offenders for selection in the propensity scores procedure was determined using the results of the SFA, minus the SIR-R1. For all other offenders, the SFA and the SIR-R1 were utilized in that procedure, since the SIR-R1 is a referral criterion for entry into the VPP. To ensure consistency of the static risk measure for all participants, it was the overall level of static risk result of the SFA that was utilized in all subsequent analyses.

The second component of the OIA, the Dynamic Factors Identification and Analysis (DFIA), assesses a wide variety of contributing dynamic factors grouped into seven domains, with each domain consisting of multiple indicators. The DFIA yields need levels for each domain, as well as an overall level of dynamic need. The overall need level also ranges from low to medium to high. For the purpose of this study, the overall level of dynamic need was utilized.

### ***Other Program Participation***

Previous research suggests that prior program participation impacts on and confounds research results regarding the efficacy of current programming (Merill, Alterman, Cacciola, & Rutherford, 1999). Consequently, participation in other programs needed to be taken into account. For this study, core correctional programs that were completed during the current incarceration by all the study participants were included. There were two categories of "*Other program participation*". The first category was the sum of all violence-related correctional programs, excluding the VPP. These programs included anger management, family violence, and other violence-related programs, but excluded any participation in maintenance for any of these programs. The second category was the sum of all other core correctional programs that do not address violent behaviour. These programs included cognitive skills, living skills, sexual offender, and substance abuse programs. Sexual offender programming was included as non-violent because it was considered theoretically different from violent non-sexual behaviour.

### ***Institutional Incidents***

A reduction in institutional incidents was considered to be a proximate outcome that would suggest VPP program effectiveness. Institutional incidents (or misconducts)

were examined prior to the beginning of the VPP and compared to the corresponding period following the VPP for those offenders who had completed the program. Institutional incidents are divided into minor and major, and are defined as any behaviour that occurs within the institution and results in a formal charge. Minor incidents include such things as disobeying an order, being disrespectful to staff, or refusing or leaving work. Examples of major incidents include involvement in fighting, assault, or threats; possession of unauthorized items; or attempting or assisting in an escape. Data on institutional incidents were collected for a period of one year before entry into the VPP and one year after completion of the VPP.

### ***Failure and Recidivism***

For the purpose of this study, we considered a number of post-release outcomes that varied in their focus and degree of specificity. These outcomes were ‘any failure’, ‘revocation’, and ‘recidivism’.

#### **Any Failure**

In this study, “*any failure*” is an aggregate variable that included revocations for any reason, and any arrest or conviction for a new offence.

#### **Revocations**

For the purpose of this study, the variable “*revocations*” only includes revocations that were due to a violation of conditions of release. Revocations that occurred as a result of the commission of a new offence were included in the analyses as ‘*recidivism*’. Revocation data were obtained from OMS.

#### **Recidivism**

The variable ‘*recidivism*’ included only all new offences committed after the offenders in this study were released from prison. The Canadian Police Information Centre (CPIC) records were utilized to obtain and code information regarding new criminal offences following release for the VPP and comparison groups. To be coded as recidivism, offences had to have been committed after the first release following participation in the VPP (or first release during the corresponding time period for the comparison group) and to have occurred between July 2000 and July 1, 2005. All new offences, whether committed while under supervision or after warrant expiry during the

specified time period, were included in this study. New offences were coded as any (includes general, violent, and sexual offences), violent (includes only violent offences), or sexual recidivism (includes only sexual offences).

### ***Time-at-Risk***

Time-at-risk was defined as the number of days an offender was in the community following release. Time-at-risk began on the release date of the offender and ended at the date of a revocation or a new offence, or, for offenders who did not fail, July 1, 2005.

The average time at risk for the VPP participants was 1 year (mean [M] days = 379; range = 3 to 1,841), and 1.6 years for the comparison group (M days = 569; range = 4 to 2,268).

### **Procedure**

Information on offender demographic, risk assessment, program participation, and institutional adjustment, as well as release and revocation information were extracted from OMS. CPIC records were requested for all participants in this study from the Royal Canadian Mountain Police in July 2005. These records were coded for any, violent, and sexual offences that occurred following the release of the study participants.

The first set of analyses examined differences between offenders who completed the VPP and those who started but failed to complete the program. Identifying differences between offenders who complete treatment and those who do not complete treatment is important as research indicates that drop-outs are at a higher risk to re-offend (Hanson & Bussière, 1998; Marques, 1999). Consequently, offenders who completed the VPP [referred to as *completers*] were compared to the offenders who quit or were removed from the VPP [referred to as *drop-outs*] and to offenders who failed to finish the program for other reasons [referred to as *administrative/personal non-completers*] on demographic variables and on the static and dynamic risk assessment results.

The second set of analyses examined the impact of the VPP on institutional conduct. Only offenders who had completed the VPP were included in these analyses. The number of minor and major incident charges received by these offenders during the 6-month and 1-year period prior to commencement of the VPP was compared to the number of minor and major charges they received during equivalent periods of time

following completion of the VPP. In addition, institutional incidents were analyzed using incremental time frames of 3 months. The division of the one-year period into non-cumulative increments of 3 months permitted the conduct of additional analyses of the potential impact of the VPP on institutional adjustment. It was expected that a difference in the number of incidents from pre to post VPP for completers would be more noticeable for the periods more proximal to the completion of the VPP within the 1-year period following completion of the program.

The third set of analyses examined failures following release, including new offences, for the VPP participants and the comparison group. A series of Cox regression analyses were conducted to determine the impact of the VPP on offenders by comparing the rates of failure and of new offences among VPP program completers, non-completers, and the comparison group while taking into account other program participation and initial risk level.

Finally, because Aboriginal offenders form a special group within CSC, all the above analyses were conducted first on the entire VPP and comparison groups and then on the respective subgroups of Aboriginal offenders.

## RESULTS

### Equivalency of VPP and Comparison Groups

As would be expected with matched groups, the total VPP sample was similar to the comparison group with regards to demographics (see Table 1). A *t* test revealed no significant differences in age in the two groups,  $t(964) = -.44, ns$ . Similarly, chi-square analyses failed to demonstrate statistically significant differences between the total VPP and comparison groups for race,  $\chi^2(3, N = 966) = 4.70, ns$ , and marital group,  $\chi^2(3, N = 966) = 1.02, ns$ .

**Table 1: Racial Composition, Marital Status, and Age at Intake for VPP Program Participants and Comparison Group**

	VPP Participants % (N)	Comparison Group % (N)
<b>Racial Composition</b>		
Caucasian	65.8 (327)	68.5 (319)
Aboriginal	25.6 (128)	27.5 (128)
Black	6.0 (30)	3.6 (17)
Other	3.0 (15)	0.4 (2)
<b>Marital Status</b>		
Single	48.4 (242)	51.1 (237)
Married / Common-law	45.8 (229)	43.1 (200)
Divorced / Separated	5.4 (27)	5.6 (26)
Other	0.4 (2)	0.2 (1)
<b>Age</b>		
<i>M(SD)</i>	30.30 (7.88)	30.32 (7.63)

*Note.* *M* = Mean; *SD* = Standard deviation.

Analyses were also conducted to establish the degree of similarity between VPP participants and the comparison group on risk and need. As expected, the propensity score technique utilized to establish the comparison group resulted in a similar distribution of overall risk to the VPP group,  $\chi^2(2, N = 963) = 0.26, ns$  (see Table 2).



Furthermore, the groups did not significantly differ on SIR-R1 scores,  $t(738) = -1.50$ , *ns*, nor on SIR-R1 categories,  $\chi^2(4, N = 740) = 4.37$ , *ns*. Because Aboriginal offenders do not have SIR-R1 scores, that subgroup was examined for equivalency on risk. As shown in Table 3, the VPP Aboriginal participants and the Aboriginal offenders in the comparison group did not differ in terms of risk,  $\chi^2(2, N = 256) = 3.01$ , *ns*.

The VPP participants and the comparison group of offenders were also compared on overall need. Again, as expected, results indicated no significant between-group differences,  $\chi^2(2, N = 963) = 0.64$ , *ns*. Similarly, there were no differences for the Aboriginal subgroup on need,  $\chi^2(2, N = 256) = 0.95$ , *ns* (see Table 3).

Finally, analyses examined whether VPP participants and the comparison group differed on level of motivation for intervention at intake. Overall, the VPP participants as a group possessed lower levels of motivation as compared to the comparison group,  $\chi^2(2, N = 959) = 24.77$ ,  $p < .01$  (see Table 2). Similarly, significant differences in motivation were also found for the Aboriginal offender subgroups,  $\chi^2(2, N = 255) = 12.97$ ,  $p < .01$  (see Table 3).

**Table 2: Risk, Need, and Motivation at Intake for VPP Participants and Comparison Group**

	<b>VPP Participants</b>	<b>Comparison Group</b>
	<b>% (N)</b>	<b>% (N)</b>
<b>Overall Risk</b>	<b>n = 500</b>	<b>n = 466</b>
Low	0.6 (3)	0.8 (4)
Medium	17.6 (88)	17.2 (80)
High	81.8 (409)	82.0 (382)
<b>SIR-R1 Group</b>		
Very poor	63.1 (227)	61.9 (205)
Poor	34.2 (123)	28.7 (95)
Fair	1.7 (6)	5.4 (18)
Good	0.8 (3)	2.1 (7)
Very Good	0.3 (1)	1.8 (6)
<b>No SIR-R1 Scores**</b>	28.0 (140)	29.0 (135)
<b>Overall Dynamic Need</b>	<b>n = 497</b>	<b>n = 466</b>
Low	0.6 (3)	1.1 (5)
Medium	12.0 (60)	12.0 (56)
High	87.4 (434)	86.9 (405)
<b>Motivation for Intervention *</b>	<b>n = 500</b>	<b>n = 459</b>
Low	20.8 (104)	26.6 (122)
Medium	70.0 (350)	55.6 (255)
High	9.2 (46)	17.9 (82)

*Note.* *M* = Mean; *SD* = Standard deviation.

\*Differences significant,  $p < .01$ .

\*\*Includes Aboriginal offenders and missing scores.

**Table 3: Risk, Need, and Motivation for Aboriginal VPP Participants and Aboriginal Comparison Group**

	VPP Participants % (n=128)	Comparison Group % (n=128)
<b>Risk</b>		
Low	0.8 (1)	0.0 (0)
Medium	10.2 (13)	5.5 (7)
High	89.1 (114)	94.5 (121)
<b>Need</b>		
Low	1.6 (2)	0.8 (1)
Medium	4.7 (6)	7.0 (9)
High	93.8 (120)	92.2 (118)
<b>Motivation for Intervention</b>		
*		
Low	21.9 (28)	26.6 (40)
Medium	68.0 (87)	46.5 (59)
High	10.1 (13)	22.0 (28)

\*Differences significant,  $p < .01$ .

### Referral Criteria

To be referred to the VPP, participants had to have been convicted of at least two violent offences and scored in one of the two highest risk groups according to the SIR-R1. In cases where the SIR-R1 scores were not available, a high criminal-risk rating was required. An examination showed that 2.8% of the VPP participants (10 of 360) who had a SIR-R1 on file did not score in the two highest categories as per the referral criteria. Further, 11% of the Aboriginal offenders who participated in the VPP (14 out of 128) did not rate as a high risk as per the referral criteria (see Table 3).

### VPP Completers and Non-Completers

In this study, 33.3% (n=167) of offenders who started the VPP did not complete the program. In order to get a more precise break-down of the reasons for non-completion, the VPP sample was divided into three categories based on whether or not

the program was successfully completed: completers, dropouts, and administrative/personal non-completers. A series of analyses were then conducted to identify potential differences among these categories. As a reminder, to ensure consistency of the static risk measure for all participants, in the remainder of the analyses, the overall level of static risk result of the Static Factors Assessment was utilized.

In total, 66.6% (n=333) of the VPP participants completed the program. This 'completer' category includes any offender who either successfully completed the program or attended all sessions without necessarily meeting the additional criterion of successful completion. A total of 167 offenders failed to complete the program. Of these, 60.5% (n=101) were in the 'drop-out' category. This category includes offenders who did not complete the program because of a self-initiated drop-out or because they were removed from the program by the facilitator for behavioural reasons. The remaining 39.5% (n=66) did not complete the program due to administrative (e.g., released, transferred) or personal (e.g., hospitalized, placed in segregation) reasons.

#### **Demographic Information**

As seen in Table 4, there were no significant differences in racial composition among these groups,  $\chi^2(6, N = 500) = .10, ns$ . A trend toward significance was observed for marital status as a result of a higher percentage of single offenders in the drop-out group,  $\chi^2(6, N = 500) = 4.89, p < .08$ . The analyses also revealed that there were differences between the groups on age,  $F(2, 497) = 6.57, p < .01$ . Post-hoc analyses indicated that VPP drop-outs were significantly younger than VPP completers and administrative/personal non-completers. Sentence length also significantly differed across the groups,  $F(2, 441) = 4.67, p < .01$ . Post-hoc analyses revealed that VPP completers were serving significantly longer sentences than either the drop-outs or the administrative/personal non-completers.

**Table 4: Racial Composition, Marital Status, Age, Risk, & Sentence Length for VPP Completers and Non-Completers**

	<b>Completers % (n)</b>	<b>Non-Completers</b>	
		<b>Drop-outs % (n)</b>	<b>Admin/Personal % (n)</b>
<b>Racial Composition</b>			
Caucasian	64.9 (216)	66.3 (67)	66.7 (44)
Aboriginal	26.1 (87)	24.8 (25)	24.2 (16)
Black	6.0 (20)	6.9 (7)	4.5 (3)
Other	3.0 (10)	2.0 (2)	4.5 (3)
<b>Marital Status</b>			
Single	46.8 (156)	55.4 (56)	45.5 (30)
Married / Common-law	48.3 (161)	34.7 (35)	50.0 (33)
Divorced / Separated	4.8 (16)	8.8 (9)	3.0 (2)
Other	0 (0)	1.0 (1)	1.5 (1)
<b>Age (at intake)</b>			
<i>M</i>	30.86 <sup>a</sup>	27.74 <sup>ab</sup>	31.38 <sup>b</sup>
<i>SD</i>	(7.92)	(6.62)	(8.72)
<b>Sentence Length (years) **</b>			
	<b>n = 293</b>	<b>n = 88</b>	<b>n = 61</b>
<i>M</i>	7.82 <sup>a</sup>	5.71 <sup>a</sup>	5.77
<i>SD</i>	(7.53)	(5.12)	(4.42)

Note: *M* = Mean; *SD* = Standard deviation. Groups sharing a common letter differ significantly,  $p < .01$ .

\*\* Lifers and indeterminate offenders excluded from sentence length calculation

### **Risk and Need**

Differences between VPP completers, drop-outs, and administrative/personal non-completers on risk and need were examined (see Table 5). Results show an overall comparable distribution of risk across low, medium and high categories between completers, drop-outs, and administrative/personal non-completers,  $\chi^2 (4, N = 497) = 5.77, ns$ . A further analysis to specifically examine the Aboriginal subgroup also

revealed no differences in distribution of risk among the Aboriginal completers and the two Aboriginal non-completers groups,  $\chi^2(4, N = 128) = 5.45, ns$ .

Similar to risk, there were no differences on need among the various VPP groups,  $\chi^2(4, N = 497) = 3.13, ns$ . VPP participants were typically high-need offenders regardless of program completion status. The same pattern also holds within the Aboriginal subgroup,  $\chi^2(4, N = 128) = 1.07, ns$ .

**Table 5: Risk and Need at Intake for Entire Sample of VPP Completers and Non-Completers and for Aboriginal Subgroup**

	<b>Completers % (n)</b>	<b>Non-Completers</b>	
		<b>Drop-outs % (n)</b>	<b>Admin/Personal % (n)</b>
<b><u>Entire VPP Group</u></b>			
<b>Risk to Re-Offend</b>			
Low	0.3 (1)	1.0 (1)	1.5 (1)
Medium	17.3 (57)	13.9 (14)	25.8 (17)
High	82.4 (272)	85.1 (86)	72.7 (48)
<b>Overall Dynamic Need</b>			
Low	0.9 (3)	0 (0)	0 (0)
Medium	12.4 (41)	8.9 (9)	15.2 (10)
High	86.7 (286)	91.1 (92)	84.8 (56)
<b><u>Aboriginal Subgroup</u></b>			
<b>Risk to Re-Offend</b>			
Low	1.1 (1)	0.0 (0)	0.0 (0)
Medium	9.2 (8)	4.0 (1)	25.0 (4)
High	89.7 (78)	96.0 (24)	75.0 (12)
<b>Overall Dynamic Need</b>			
Low	2.3 (2)	0.0 (0)	0.0 (0)
Medium	4.6 (4)	4.0 (1)	6.3 (1)
High	93.1 (81)	96.0 (24)	93.8 (15)

## Motivation

Perhaps surprisingly, motivation for intervention (see Table 6) was not significantly different among VPP completers, drop-outs and administrative/personal non-completers, neither among the entire VPP group,  $\chi^2(4, N = 500) = 6.70, ns$ , nor among the the Aboriginal subgroup,  $\chi^2(4, N = 128) = 4.82, ns$ .

**Table 6: Motivation for Intervention for Entire Sample of VPP Group and Aboriginal Subgroup**

	Completers % (n)	Non-Completers	
		Drop-outs % (n)	Admin/Personal % (n)
<b><u>Entire VPP Group</u></b>			
<b>Motivation</b>			
Low	18.0 (60)	26.7 (27)	25.8 (17)
Medium	71.5 (238)	68.3 (69)	65.2 (43)
High	10.5 (35)	5.0 (5)	9.1 (6)
<b><u>Aboriginal Subgroup</u></b>			
<b>Motivation</b>			
Low	17.2 (15)	36.0 (9)	25.0 (4)
Medium	71.3 (62)	60.0 (15)	62.5 (10)
High	11.5 (10)	4.0 (1)	12.5 (2)

## Other Program Participation

Research suggests that prior program participation impacts or confounds research results regarding the efficacy of current programming (Lösel, 2001; Merrill, Alterman, Cacciola, & Rutherford, 1999). For that reason, all core correctional programs completed by the offenders in this study during their current incarceration were taken into consideration. These core correctional programs included cognitive skills, living skills, sex offender, substance abuse, anger management, family violence, and other violence-related programs. Due to low rates of participation in some of these programs, the

treatment programs were divided into two categories: a category for programs with violence reduction content and a category for all other programs that do not directly target general violence.

As seen in Table 7, the VPP participants completed significantly more other violence-related core correctional programs than did the comparison group,  $t(964) = 6.16$ ,  $p < .001$ . There was no difference, however, between the VPP participants and the comparison group on completion of non-violence-related programming,  $t(964) = -1.50$ , *ns*. Similarly, Aboriginal VPP participants also completed significantly more other violence-related programs,  $t(256) = 2.65$ ,  $p < .01$  than their matched comparison. No difference, however, existed between these 2 subgroups on completion of non-violence-related programs,  $t(256) = -1.82$ , *ns*.

**Table 7: Mean (Standard Deviation) Number of Programs Completed by VPP Participants and Comparison Group**

	VPP	Comparison
<b><u>Entire VPP Group</u></b>		
Violence programs **	0.59 (0.77)	0.31 (0.60)
Non-violence programs	2.12 (1.78)	2.29 (1.88)
<b><u>Aboriginal Subgroup</u></b>		
Violence programs *	0.61 (0.83)	0.37 (0.61)
Non-violence programs	2.44 (2.05)	2.91 (2.08)

\*  $p < .01$ . \*\*  $p < .001$ .

An additional examination of program participation by VPP completers and non-completers was undertaken (see Table 8). The mean number of other violence-related programs completed by the VPP offenders did not significantly differ among completers, drop-outs, and administrative/personal non-completers,  $F(2, 499) = 0.51$ , *ns*. Conversely, there was a significant difference among the groups in the number of non-violence-related programs they had completed,  $F(2, 499) = 6.60$ ,  $p < .001$ . Post-hoc analyses



revealed that VPP completers had completed significantly more non-violence-related programming during their incarceration than both VPP drop-outs and administrative/personal non-completers.

The Aboriginal offenders differed significantly in the number of other violence-related programs in which they had participated,  $F(2, 127) = 4.84, p < .01$ . Interestingly, the Aboriginal VPP administrative/personal non-completers had completed significantly more other violence-related programs than had either the completers or the drop-out groups. The number of non-violence-related programs also differed significantly among the Aboriginal offenders,  $F(2, 127) = 3.05, p < .05$ . Aboriginal completers had completed more non-violence-related programs than drop-outs.

**Table 8: Mean (Standard Deviation) Number of Programs Completed by the Different Categories of VPP Participants**

	Completers	Non-Completers	
		Drop-outs	Admin/Personal
<b><u>Entire VPP Group</u></b>			
Violence programs	0.58 (0.78)	0.54 (0.72)	0.67 (0.77)
Non-violence programs***	2.32 (1.81)	1.71 (1.64)	1.71 (1.65)
<b><u>Aboriginal Subgroup</u></b>			
Violence programs**	0.55 (0.84)	0.44 (0.65)	1.18 (0.83)
Non-violence programs*	2.69 (2.11)	1.56 (1.50)	2.50 (2.19)

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

## Institutional Incidents

Although recidivism rates provide the ultimate indicator of program success, institutional incidents are a credible source of proximate outcome of the efficacy of the VPP in reducing violent behaviour (Serin, 2001). To determine the impact of the VPP on institutional adjustment or incidents, within-group analyses examined pre- and post-program changes on minor and major institutional incidents. These analyses were conducted on 3-month segments up to one year pre and post VPP, and then for the cumulative effect at 6 months and at 1 year. Only offenders who had completed the program were included in these analyses. It is noted that as the time frame included in the analyses expanded, there was a reduction in the number of offenders due to releases.

As can be seen in Tables 9 and 10, there were no differences on minor institutional charges for any of the groups, including Aboriginal subgroups.

**Table 9: Mean Number (SD) of Minor Institutional Misconduct Charges for Entire Group of VPP Completers Group, Pre and Post VPP**

	Pre-VPP	Post-VPP	<i>p</i>
<b>Minor Charges</b>			
0 to 3 months (n=324)	0.54 (1.13)	0.47 (1.11)	<i>ns</i>
3 to 6 months (n=304)	0.66 (1.84)	0.49 (1.56)	<i>ns</i>
6 to 9 months (n=274)	0.35 (0.95)	0.46 (1.29)	<i>ns</i>
9 to 12 months (n=246)	0.38 (1.11)	0.38 (.96)	<i>ns</i>
Total at 6 months (n=304) (i.e. cumulative)	1.17 (2.45)	0.94 (2.35)	<i>ns</i>
Total at 1 year (n= 246) (i.e., cumulative)	1.83 (3.30)	1.82 (4.24)	<i>ns</i>

**Note.** *p* = level of statistical significance.

**Table 10: Mean Number (SD) of Minor Institutional Misconduct Charges for  
Aboriginal Completers, Pre and Post VPP**

	<b>Pre-VPP</b>	<b>Post-VPP</b>	<i>p</i>
<b>Minor Charges</b>			
0 to 3 months (n=85)	0.49 (1.09)	0.39 (.79)	<i>ns</i>
3 to 6 months (n=83)	0.77 (2.04)	0.37 (.74)	<i>ns</i>
6 to 9 months (n=75)	0.28 (.74)	0.27 (.60)	<i>ns</i>
9 to 12 months (n=69)	0.28 (.94)	0.38 (.67)	<i>ns</i>
Total at 6 months (n=83) (i.e., cumulative)	1.24 (2.79)	0.76 (1.15)	<i>ns</i>
Total at 1 year (n= 69) (i.e., cumulative)	1.58 (2.68)	1.36 (1.58)	<i>ns</i>

**Note.** *p* = level of statistical significance.

In terms of major institutional charges, differences were found among the groups. Specifically, there were significant reductions in major charges in the 0- to-3-month period,  $t(323) = 2.02, p < .05$ , and in the 3-to-6-month period,  $t(303) = 2.46, p < .01$ , following completion of the program. While there were no differences in the 6-to-9 and the 9-to-12-month periods, the cumulative effects at 6 months and 1 year were significantly different,  $t(303) = 3.15, p < .01$ , and  $t(245) = 2.49, p < .02$  respectively (see Table 11).

Within the Aboriginal subgroups, differences on major charges pre and post VPP were not so pronounced. Specifically, the 3-to-6-month- period showed a significant reduction in charges,  $t(82) = 2.11, p < .04$ , as did the cumulative effect at 6 months,  $t(82) = 2.09, p < .04$  (see Table 12).

**Table 11: Mean Number (SD) of Major Institutional Misconduct Charges for  
Entire VPP Completers, Pre and Post VPP**

	<b>Pre-VPP</b>	<b>Post-VPP</b>	<i>p</i>
<b>Major Charges</b>			
0 to 3 months (n=324)	0.38 (.93)	0.27 (.74)	.05
3 to 6 months (n=304)	0.37 (.96)	0.22 (.58)	.01
6 to 9 months (n=274)	0.27 (.90)	0.21(.56)	<i>ns</i>
9 to 12 months (n=246)	0.24 (.64)	0.24 (.72)	<i>ns</i>
Total at 6 months (n=304) (i.e., cumulative)	0.75 (1.53)	0.48 (1.05)	.01
Total at 1 year (n= 246) (i.e., cumulative)	1.32 (2.31)	0.96 (1.66)	.02

*Note.* *p* = level of statistical significance.

**Table 12: Mean Number (SD) of Major Institutional Misconduct Charges for Aboriginal Completers, Pre and Post VPP**

	<b>Pre-VPP</b>	<b>Post-VPP</b>	<i>p</i>
<b>Major Charges</b>			
0 to 3 months (n=85)	0.35 (.93)	0.26 (.90)	<i>ns</i>
3 to 6 months (n=83)	0.33 (1.07)	0.07 (.30)	.04
6 to 9 months (n=75)	0.15 (.39)	0.19 (.54)	<i>ns</i>
9 to 12 months (n=69)	0.10 (.42)	0.19 (.55)	<i>ns</i>
Total at 6 months (n=83) (i.e., cumulative)	0.69 (1.72)	0.34 (.94)	.04
Total at 1 year (n=69) (i.e., cumulative)	0.87 (1.96)	0.68 (1.43)	<i>ns</i>

*Note.* *p* = level of statistical significance.

### **Release**

For descriptive purposes only, Table 13 presents the release types for the entire VPP and comparison groups, and for the Aboriginal subgroups. As can be seen, the majority of these offenders were released on statutory release. Interestingly though, VPP completers, whether Aboriginal or not, obtained a greater proportion of day parole releases than offenders who did not complete the program, and offenders who never participated in the VPP.

**Table 13: Release Type for Offenders in VPP and Comparison Groups**

	Completers % (n)	Non-Completers % (n)		Comparison % (n)
		Drop-outs	Admin/Personal	
<b>Entire Sample</b>	<b>N=300</b>	<b>N=84</b>	<b>N=62</b>	<b>N=446</b>
Day Parole	23.0 (69)	0	1.6 (1)	9.2 (41)
Full Parole	0.7 (2)	0	0	1.6 (7)
Statutory Release	39.3 (118)	64.3 (54)	62.9 (39)	43.9 (196)
Warrant Expiry	2.3 (7)	6.0 (5)	6.5 (4)	4.9 (22)
Total Released	65.3 (196)	70.2 (59)	71.0 (44)	59.6 (266)
<b>Aboriginal Subgroup</b>	<b>N=87</b>	<b>N=25</b>	<b>N=16</b>	<b>N=128</b>
Day Parole	26.4 (23)	0	6.2 (1)	9.4 (12)
Full Parole	0	0	0	2.3 (3)
Statutory Release	34.5 (30)	64.0 (16)	37.5 (6)	46.9 (60)
Warrant Expiry	4.6 (4)	8.0 (2)	18.7 (3)	9.4 (12)
Total Released	65.5 (57)	72.0 (18)	62.5 (10)	70.0 (87)

**Rates of Failures and Recidivism**

Also for descriptive purposes only, Table 14 shows the unadjusted rates of failures, revocations, new offences, new violent offences, and new sexual offences following release. As a reminder, *any failure* includes a revocation or a new offence; *revocations* only include those revocations for failure to abide with release conditions; and *recidivism* includes any revocation due to a new offence as well as any new criminal offences committed post-warrant. It is also noted that for the purpose of these analyses and all subsequent analyses on failures, revocations, and recidivism, due to low base

rates, offenders who started but failed to complete the program for any reason (i.e., drop-outs and administrative/personal non-completers) were combined into one overall group called *non-completers*. As seen in Table 14, offenders who completed the VPP, whether Aboriginal or not, had uniformly lower rates of any failure, revocations, and recidivism than the non-completers and the comparison.

**Table 14: Any Failures, Revocations, and Re-offence Rates for Entire VPP Participants, Comparison Group, and Aboriginal Subgroups**

	Completers (N)	Non- Completers (N)	Comparison (N)
<b>Entire Sample</b>			
Any failure	51.8% (103)	63.2% (67)	79.3% (211)
Revocation	28.1% (56)	25.5% (27)	39.1% (104)
Any recidivism*	24.6% (49)	37.7% (40)	41.0% (109)
Violent recidivism	8.5% (17)	24.5% (26)	21.8% (58)
Sexual recidivism	0.5% (1)	1.9% (2)	1.1% (3)
<b>Aboriginal Subgroup</b>			
Any failure	59.6% (31)	53.6% (15)	85.5% (71)
Revocation	30.8% (16)	10.7% (3)	33.7% (28)
Any recidivism*	28.8% (15)	42.9% (12)	51.8% (43)
Violent recidivism	9.6% (5)	28.65% (8)	32.5% (27)
Sexual recidivism	0.0% (0)	3.6% (1)	1.2% (1)

\* includes general, violent, and sexual offences

## **The Impact of the VPP on Failures and Recidivism**

The impact of the VPP was examined through a series of Cox regressions. Cox regression analyses allow for the examination of the relationship between VPP participation and reduced recidivism, while controlling for other variables that could also influence recidivism. For this study, completion of other violence program, completion of non-violence programs, and risk were entered as covariates to control their potential effect on recidivism. Cox regression analyses yield hazard ratios, also known as risk ratios. The hazard ratio indicates the increase in the rate of recidivism in one group compared to the other. A hazard ratio of 1.00 indicates no association between the predictor variable and the rate of recidivism. Values greater than 1.00 indicate a higher rate of recidivism, whereas values less than 1.00 indicate a lower rate. For each series of analyses, the rate of failures, any recidivism, and violent recidivism were examined among completers, non-completers, and the comparisons.

### **Entire Sample**

In the first series of Cox regressions, all offenders who started the VPP, regardless of whether or not they completed the program, were compared to the untreated comparison group. As shown in Table 15, as a group, offenders who started the VPP did not differ significantly from the comparison group in the rate of failure or recidivism.



**Table 15: Cox Regression Analyses for Entire VPP Sample – Regardless of Completion Status**

	<b>Any failure N = 564</b>	<b>Any recidivism N = 564</b>	<b>Violent recidivism N = 563</b>
	<i>HR (CI)</i>	<i>HR (CI)</i>	<i>HR (CI)</i>
<b>Violence programs</b>	1.00 (0.87-1.17)	1.14 (0.94-1.39)	1.19 (0.91-1.55)
<b>Other programs</b>	1.01 (0.95-1.07)	1.05 (0.97-1.14)	1.05 (0.94-1.17)
<b>Risk</b>	0.90 (0.71-1.14)	0.87 (0.63-1.21)	0.98 (0.61-1.57)
<b>VPP participants vs. comparison group</b>	1.14 (0.93-1.41)	1.03 (0.77-1.39)	1.11 (0.74-1.67)

*Note.* HR = Hazard ratio. CI = 95% confidence interval.

In the next set of Cox regressions, VPP participants were divided into those who had completed the program and those who had failed to complete the program. The completers were then compared to both the non-completers and the untreated comparison group. As shown in Table 16, completion of the VPP had a positive impact on failures, any recidivism, and violent recidivism. In comparison to VPP completers, offenders who had never participated in the program had a 1.36 times greater rate of any failures ( $p < .05$ ), a 1.36 times greater rate of any recidivism ( $p < .08$ ), and finally, a 2.10 times greater rate of violent recidivism ( $p < .05$ ). As is typically found with offenders who start but fail to complete a program, non-completers in this study had a rate of failure that was 1.69 times greater ( $p < .05$ ), a rate of any recidivism that was 2.22 times greater ( $p < .05$ ), and a rate of violent recidivism that was 4.25 times greater ( $p < .05$ ) than the program completers (see Table 16).

Neither risk nor participation in other violence- or non-violence-related programs was associated with the rates of failure, any recidivism, or violent recidivism.

**Table 16: Cox Regression Analyses for VPP Completers**

	<b>Any failure</b> <i>N</i> = 564	<b>Any recidivism</b> <i>N</i> = 564	<b>Violent recidivism</b> <i>N</i> = 563
	<i>HR (CI)</i>	<i>HR (CI)</i>	<i>HR (CI)</i>
<b>Violence programs</b>	0.99 (0.85-1.15)	1.12 (0.91-1.36)	1.14 (0.87-1.49)
<b>Other programs</b>	1.01 (0.96-1.07)	1.05 (0.97-1.14)	1.05 (0.94-1.17)
<b>Risk</b>	0.91 (0.72-1.15)	0.88 (0.63-1.22)	0.99 (0.62-1.59)
<b>VPP completers vs.:</b>			
<b>Non-completers</b>	1.69* (1.23-2.32)	2.22* (1.44-3.45)	4.25* (2.27-7.95)
<b>Comparison group</b>	1.36* (1.07-1.73)	1.36 <sup>†</sup> (0.96-1.95)	2.10* (1.20-3.68)

*Note.* *HR* = Hazard ratio. *CI* = 95% confidence interval.

<sup>†</sup> *p* < .08. \* *p* < .05.

### **Aboriginal Subgroup**

The same series of analyses were re-run for the Aboriginal subgroups (see Tables 17 and 18). In the first series of Cox regressions, VPP Aboriginal participants (including non-completers) did not differ significantly from the comparison group in the rate of failure or recidivism (Table 17). There was, however, a trend toward significance (*p* < .10) for violent recidivism. The rate of violent recidivism was almost two times greater (*HR* = 1.81) among Aboriginal offenders who had never participated in the VPP compared to those who had.

When the VPP Aboriginal completers were compared to the Aboriginal non-completers and to the Aboriginal untreated comparison group, the results were more positive (see Table 18). In comparison to Aboriginal VPP completers, offenders who had

never participated in the program had a 1.47 times greater rate of any failure ( $p < .08$ ), a 1.73 times greater rate of any recidivism ( $p < .10$ ), and, finally, a 3.33 times greater rate of violent recidivism ( $p < .05$ ). Non-completers had a rate of failure that was 1.22 times greater (*ns*), a rate of any recidivism that was 2.10 times greater ( $p < .10$ ), and a rate of violent recidivism that was 3.92 times greater ( $p < .05$ ) than the program completers.

Again, neither risk nor participation in other violence- or non-violence-related programs was associated with the rates of failure, any recidivism, or violent recidivism.

**Table 17: Cox Regression Analyses for Aboriginal Subgroup – Regardless of Completion Status**

	<b>Any failure</b> <i>N</i> = 163	<b>Any recidivism</b> <i>N</i> = 163	<b>Violent recidivism</b> <i>N</i> = 162
	<i>HR (CI)</i>	<i>HR (CI)</i>	<i>HR (CI)</i>
<b>Violence programs</b>	1.20 (0.93-1.53)	1.24 (0.90-1.70)	1.36 (0.93-1.99)
<b>Other programs</b>	0.98 (0.89-1.08)	1.03 (0.91-1.16)	0.96 (0.81-1.15)
<b>Risk</b>	0.84 (0.50-1.42)	0.80 (0.42-1.50)	0.98 (0.34-2.84)
<b>VPP participants vs. comparison group</b>	1.38 (0.94-2.04)	1.33 (0.80-2.21)	1.81 <sup>†</sup> (0.91-3.61)

*Note.* *HR* = Hazard ratio. *CI* = 95% confidence interval.

<sup>†</sup>  $p < .10$ .

**Table 18: Cox Regression Analyses for Subgroup of Aboriginal VPP Completers**

	<b>Any failure N = 163</b>	<b>Any recidivism N = 163</b>	<b>Violent recidivism N = 162</b>
	<b>HR (CI)</b>	<b>HR (CI)</b>	<b>HR (CI)</b>
<b>Violence programs</b>	1.12 (0.93-1.52)	1.21 (0.87-1.67)	1.31 (0.89-1.92)
<b>Other programs</b>	0.98 (0.89-1.09)	1.03 (0.91-1.17)	0.97 (0.81-1.16)
<b>Risk</b>	0.83 (0.49-1.42)	0.77 (0.40-1.48)	0.93 (0.31-2.84)
<b>VPP completers vs.:</b>			
<b>Non-completers</b>	1.22 (0.66-2.27)	2.10 <sup>†</sup> (0.98-4.54)	3.92* (1.27-12.10)
<b>Comparison group</b>	1.47 <sup>†</sup> (0.95-2.27)	1.73 <sup>†</sup> (0.94-3.19)	3.33* (1.25-8.85)

*Note.* HR = Hazard ratio. CI = 95% confidence interval.

<sup>†</sup>  $p < .10$ . \*  $p < .05$

## **DISCUSSION**

The current study investigated the effectiveness of the VPP in reducing institutional misconduct and recidivism. To determine if program participation had an impact on institutional adjustment, the rates of minor and major institutional charges before and after participating in the VPP were examined for all offenders who had completed the program. To determine if program participation had an impact on recidivism, and specifically violent recidivism, the reoffending rates of released VPP participants were compared to those of a matched comparison group selected through a propensity matching technique. These examinations were first conducted on all VPP participants, and then on the subgroup of Aboriginal offenders. The propensity score-matching technique was effective in matching the groups as evidenced by the similarity of the treated and comparison groups in racial composition, marital status, age, risk, and need. Motivation was not included in the propensity score-matching scheme and, interestingly, the treated group had been assessed as less motivated for intervention than the comparison group.

In all but a few cases, VPP participants met the referral criteria for the program. This indicates that, for the most part, the program was being delivered to the offenders for whom it was intended.

### **Institutional Adjustment**

Major institutional charges involve serious violations of institutional rules, including engaging in violent behaviour. Minor institutional charges involve minor violations of institutional charges such as disobeying an order, being disrespectful to staff, or refusing or leaving work. A positive impact was generally observed following completion of the VPP on institutional adjustment, but only when major incidents were considered; there was no impact on minor institutional misconducts.

For offenders who completed the program, there was a decrease in the number of major institutional misconduct charges from pre- to post-program periods. More specifically, the number of charges decreased significantly in the 6-month and 1-year period following completion of the program compared to the corresponding pre-program periods. A similar but more modest pattern of results was observed among the

Aboriginal offenders. It is expected that instituting more systematic maintenance programming in the institution would prolong these positive effects.

## **Recidivism**

The effectiveness of the VPP in reducing recidivism was examined through a series of Cox regression analyses. These analyses took into account time at risk as well as risk for reoffending and other program participation. The outcome most relevant in determining the effectiveness of the VPP was whether participation in the program led to reductions in violent recidivism. Results from this study show that significant reductions in the rate of violent recidivism were associated only with completion of the program. Specifically, the rate of violent recidivism was over two times greater for offenders who had never participated in the VPP compared to the program completers. The results were similar for the Aboriginal subgroup, with Aboriginal offenders who had never participated in the program having rates of violent recidivism almost four times greater than Aboriginal offenders who had completed the VPP.

Similar patterns of reductions in any failure upon release and in any recidivism were observed. In the case of any recidivism, however, this reduction only tended toward statistical significance for offenders who had completed the program. In addition, the reduction only tended toward significance for both failures and any recidivism for Aboriginal offenders.

Interestingly, risk was not associated with any failure, any recidivism, or violent recidivism in either the entire group or in the Aboriginal subgroup. This situation, however, is likely attributable to the referral criteria of the VPP. Admitting only high-risk offenders into the program certainly reduced the variability in risk level. For example, 82% of both the treated and comparison group fell into the high-risk category. Since the groups were almost uniformly high risk, the lack of relationship between risk and recidivism is not surprising.

## **Program Non-Completers**

In the current study, analyses in which all VPP participants, including those who had failed to complete the program, were compared to the untreated group did not yield

significant differences between the groups. There is ample evidence demonstrating that offenders who start but fail to complete a correctional program recidivate at a higher level than offenders who complete a program (Daly & Pelowski, 2000; Hanson et al., 2002; Van Voorhis, Spruance, Ritchey, Listwan, & Seabrook, 2004; Wormith & Olver, 2002; Yessine & Kroner, 2004). In this study, including non-completers in the treated group to examine the impact of the program on recidivism appeared to have masked the positive effect of the program for those offenders who did complete the program (Lösel, 2001).

While the mechanisms that lead to non-completers having higher rates of recidivism are not well understood, Rice and Harris (2003) suggest that these offenders are at higher risk. In our study, though, we demonstrated the equivalency among completers and non-completers on risk. Further, as an additional safeguard, we entered risk as a covariate into our analyses to remove its potential confounding effect on recidivism, suggesting that risk alone is not sufficient to explain the higher rates of recidivism among treatment non-completers.

As expected from patterns of findings in other studies examining non-completers, the rate of violent recidivism in our study was over four times higher for non-completers when compared to completers. In addition, the rates of any failure and any recidivism were also significantly higher among the non-completers when compared to offenders who had completed the VPP.

When only the Aboriginal non-completers were considered, a similar pattern of results was observed. Specifically, the rate of violent recidivism for Aboriginal non-completers was significantly greater than for Aboriginal completers. For any recidivism and any failure, the effect sizes (hazard ratios) were of a similar magnitude to those found with the entire sample but failed to reach statistical significance, likely because of the reduced sample size (i.e., reduced statistical power). Nevertheless, trends toward significance were found for all but the reduction in any failure between the Aboriginal completers and non-completers.

## CONCLUSION

The results from this study provide encouraging evidence that the VPP is an effective intervention in reducing recidivism for both Aboriginal and non-Aboriginal offenders, but only for those offenders who complete the full program. As expected, offenders who started but failed to complete the program recidivated at much higher rates. In this study, approximately 34% of participants did not successfully complete the program. Past research investigating the phenomenon of attrition from psychological intervention has shown that completers normally experience more severe initial symptomatology (Derisley & Reynolds, 2000) and greater psychological distress (Walters, Solomon, & Walden, 1982). Other research has shown that treatment attrition among sexual offenders was related to reduced levels of therapeutic alliance with the program deliverers and less social support in the offenders' lives (Proulx, 2003). These findings provide interesting research avenues to help determine the factors related to attrition among violent offenders. As a result, strategies could then be developed to increase the rates of treatment completion associated with the VPP.

Taken as a whole, the finding that completion of the VPP was associated with reductions of failures and violent recidivism reaffirms the notion that offenders can benefit from interventions that follow the principles of effective correctional intervention (Andrews & Bonta, 2003). In addition, this investigation supported the position that the VPP can be an effective intervention to treat repeat violent offenders who are considered high need and high risk.



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