

_____ **Research Report** _____

**Does the Type of Community
Employment Obtained by Offenders on
Release Correspond with their
Institutional Vocational Certification?**

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**Does the Type of Community Employment Obtained by Offenders on Release Correspond
with their Institutional Vocational Certification?**

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Executive Summary

Key words: *vocational training, vocational certification, community employment*

The Correctional Service of Canada (CSC) delivers vocational training to enhance the employability of offenders by providing them with skills that are transferable to the workplace and that are needed in the Canadian labour market. Information on the types of jobs that offenders are obtaining in the community, and whether these jobs are in the same area(s) in which the offenders are being vocationally trained while in the institution, is required to ensure that vocational training is offered in the most appropriate areas. The primary purpose of the present study was to determine if the type(s) of vocational training certification obtained by offenders during their incarceration was linked to the type(s) of employment they acquired in the community post-release. Descriptive analyses were completed to provide further context regarding the most common types of vocational certificates and community employment obtained by offenders.

Participants included offenders on the first term of their current federal sentence who were in the community on CSC supervision between April 1st, 2010 and March 31st, 2011 ($N = 4,460$; 94% were men and 82% were of non-Aboriginal ancestry). Overall, 47% of offenders received at least one vocational certificate while incarcerated and 57% obtained at least one job in the community (prior to the end of their supervision period or before the end of the study follow-up period). Thirty percent of offenders obtained both some form of vocational certification and at least one job in the community.

Types of institutional vocational certification were classified into nine types of community employment based on the National Occupational Classification (NOC) system. Offenders who received *only* vocational certificates in areas that could not be matched to one particular type of community employment (e.g., safety training) were excluded from further analyses. Descriptive analyses were then conducted for the remaining offenders who obtained both vocational certification while incarcerated and community employment on release ($N = 834$). Congruence was considered to occur when both of these employment activities fell within the same occupational category. Overall, results revealed that congruence was greatest for the Trades area, with 58% of offenders having both a vocational certificate and a community job in this area. This was followed by the Sales and Services area, with 12% of offenders having both a vocational certificate and community job in this area. Less than 1% of offenders had congruence in other areas. The highest congruence rate for men was in the Trades area (61%), while it was in the Sales and Services area for women (41%). Aboriginal offenders had a higher congruence rate in the Trades area than their non-Aboriginal counterparts (69% vs. 56%).

Overall, the low level of congruence for occupational areas besides Trades and Sales and Services raises the question of the value of the delivery of vocational training in these areas. Future research should examine the benefit or value of these certifications, and what factors are most likely to influence offenders obtaining these types of occupations.

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Acronyms

CCRR	Corrections and Conditional Release Regulations
CSC	Correctional Service of Canada
CEC	Community Employment Coordinator
EEP	Employment and Employability Program
GED	General Equivalency Diploma
HRSDC	Human Resources and Skills Development Canada
NOC	National Occupational Classification
OMS	Offender Management System
SOA	Special Operating Agency

Introduction

Corrections research has consistently emphasized the link between employment needs and criminal behaviour (e.g., Andrew & Bonta, 2003; Gendreau, Goggin, & Gray, 1998). The Canadian federal offender population demonstrates significant employment and employability needs, with approximately 65% of men (Boe, 2005) and 72% of women (Delveaux, Blanchette, & Wickett, 2005) reporting being unemployed when taken into custody. Correctional organizations worldwide continue to adopt various types of employment and employability skills programs as core rehabilitation interventions provided to offenders. Employment intervention strategies are primarily composed of institutional employment programs that allow offenders to develop generic work skills, acquire on-the-job work experience, and earn vocational certification linked to community labour market needs. Employment interventions are purported to assist offenders in the reintegration process by mitigating the systematic barriers they face as a result of poor employability skills and, in turn, contribute to post-release success and public safety. This assistance is imperative given the strong relationship that has been demonstrated between attainment of community employment and decreased likelihood of recidivism (Bouffard, MacKenzie, & Hickman, 2000; Brews, Luong, & Nafekh, 2010; Gillis & Nafekh, 2005; Lockwood, Nally, Ho, & Knutson, 2012; Nolan, Wilton, Cousineau, & Stewart, in press; Taylor et al., 2008; Wilson, Gallagher, & MacKenzie, 2000).

Institutional Employment Programs and Vocational Training

Research in the area of institutional employment programs has established that offender vocational training and work programs can have a positive effect on institutional and post-release outcomes, including enhanced institutional behaviour (Maguire, 1996; Taylor et al., 2008), increased likelihood of job attainment in the community (Nolan, Wilton, Cousineau, & Stewart, in press; Taylor et al., 2008), and decreased rates of recidivism (Bouffard et al., 2000; Wilson et al., 2000). Specifically in regard to vocational training programs, researchers have argued that institutional vocational training assists offenders in becoming contributing members of the community (e.g., Bahn, 2011; Callan & Gardner, 2007). Nevertheless, the limited research that is available demonstrates somewhat conflicting results regarding the association between vocational training and community outcomes. Overall, the research shows that vocational

training programs can have a positive effect on obtaining employment post-release (e.g., Saylor & Gaes, 1996) and reducing recidivism (e.g., Gordon & Weldon, 2003). A general weakness in the existing literature, however, is that studies have not separated the effects of different types of correctional educational and work programs. Nolan et al. (in press) attempted to address this particular issue by examining whether having obtained vocational certification in addition to having participated in institutional work was associated with improved post-release outcomes. Results demonstrated that institutionally employed offenders who also received at least one vocational certificate were significantly more likely to obtain a job than offenders who were institutionally employed only, suggesting that vocational training is uniquely valuable. More research, however, is required to further elucidate the relationship between vocational training and community outcomes, including what characteristics of vocational programming and interventions are most effective.

Some researchers have suggested looking beyond recidivism as the sole measure of outcome to include more proximal measures related to employment such as quality of work, retention, and personal/social factors (Gillis & Andrews, 2005). One contributing factor that may be important is the occupational area in which an offender ultimately obtains employment following release and whether it corresponds with factors such as personal interests, as well as prior work experience and vocational training received. A study conducted by Taylor (2008) examined the fit between an offender's personal vocational interests and their working environment. Although the results revealed that vocational congruence was not statistically significant in the prediction of most other correctional outcomes examined, offenders who obtained jobs that provided high congruence environments remained in the community longer than offenders who were unemployed. Thus, this research suggests that personal vocational congruence between personal interests and type of job employed in may have an impact on an offender's reintegration efforts.

If the vocational training that an offender chooses to participate in while incarcerated is considered a proxy for their vocational interests, then it is possible that the congruence between an offender's vocational training and the type of job they obtain in the community may also have an impact on community correctional outcomes. Nevertheless, we know of no research that has examined the actual linkages between the types of vocational training received while incarcerated and the types of jobs obtained in the community. From a labour market perspective,

demonstrated linkages between offenders' institutional vocational training and types of jobs obtained in the community may also be a valuable goal for institutions to strive towards. Given that a primary objective of institutional vocational training is to enhance the employability of offenders, it is important for vocational certifications obtained in the institution to be recognized in the community, as well as be consistent with current labour market needs and trends. A high level of institutional vocational certification-community job congruence may allow for the optimization of institutional resources in providing the most valuable training opportunities to incarcerated offenders.

CSC's Employment Programs

Employment programs are one of the core correctional interventions offered to federal offenders by the Correctional Service of Canada (CSC). CSC aims to enhance offenders' job readiness and employability skills while incarcerated and upon release via its Employment and Employability Program (EEP). The ultimate goal of the EEP is to ensure that offenders have the skills and training necessary to acquire and maintain employment once they are released into the community. Vocational training and on-the-job skills training are two of the main initiatives that comprise the EEP. CORCAN is a Special Operating Agency (SOA) within CSC which is mandated to aid in the safe reintegration of offenders into society by providing employment and employability skills training to offenders incarcerated in federal correctional institutions (CSC, 2012). As reflected in the Corrections and Conditional Release Regulations (CCRR; Minister of Justice, 2009), CORCAN must provide a work environment that strives to match private sector standards, productivity, and quality so that offenders will be better able to obtain and maintain employment in the community. To help enhance offenders' job readiness and employability skills prior to release, CORCAN works with specialized community organizations to provide vocational training and community-recognized certificates linked to the labour market (e.g., in the areas of construction trades, welding and carpentry, food industry, cleaning and maintenance, etc.).¹ The primary purpose of offering vocational training to offenders during incarceration is to provide them with marketable work skills that are relevant to employment opportunities that

¹ It should be noted that in addition to employment-specific vocational training, several vocational programs also include a generic skills component that is applicable to a number of vocational fields. This may include, for example, general safety training or general employability skills programs. CORCAN is primarily responsible for the oversight of vocational programming administration. Depending on accreditation of the vocational certification, however, the Education Portfolio of CSC's Reintegration Programs Division (RPD) may also be involved.

exist within institutional work programs, as well as in the community upon release. By providing offenders with the employability skills and experience they need to become productive citizens when they return to the community, vocational training plays a key role in promoting CSC's mandate to enhance public safety.

The Present Study

CSC delivers vocational training to support CORCAN in sustaining offender employment by providing offenders with skills that are transferable to the workplace and that are needed in the Canadian labour market. Further information on the types of jobs that offenders are obtaining in the community, and whether these jobs are in the same area(s) in which the offenders were vocationally trained while in the institution, is required to ensure that vocational training is being targeted efficiently. Thus, the primary purpose of the present study was to determine if the type(s) of vocational training certification obtained by offenders during their incarceration were linked to the type(s) of employment they acquire in the community post-release. More specifically, the current research sought to determine the number of offenders with congruence between the type(s) of vocational certification they received in the institution and the type(s) of jobs they obtained in the community post-release. For the purpose of the present study, congruence is defined as the number of "matches" between vocational certification and community employment. As the research was exploratory in nature, no specific hypotheses were formed regarding which types of vocational certification and/or community employment would have the highest degree of congruence or "matching". However, some descriptive analyses were completed to provide further context regarding the most common types of vocational certificates and community employment obtained by offenders.

Method

Participants

Participants included offenders on the first term of their current federal sentence who were in the community on conditional release/supervision² between April 1st, 2010 and March 31st, 2011 ($N = 4,460$). Ninety-four percent was male ($n = 4,194$) and 6.0% was female ($n = 266$). Eighty-two percent identified as being of non-Aboriginal ancestry ($n = 3,645$), while 17.9% identified as being of Aboriginal ancestry ($n = 799$). The average age of the offenders at release was 36.7 years ($SD = 11.9$).

Just over half of offenders were released on statutory release (53.0%; $n = 2,364$), while 43.0% ($n = 1,917$) were released on day parole, 3.2% ($n = 141$) on full parole, and 0.9% ($n = 38$) on a Long-Term Supervision Order (LTSO)³. Offenders were followed until the end of their federal sentence or until July 11th, 2012 when the data was retrieved from CSC's automated databases. This timeframe allowed for a potential 15-month follow-up period in the community.

Data

Offender data were extracted from components of CSC's Offender Management System (OMS), a comprehensive computerized file system maintained by CSC to manage information on all federally sentenced offenders. Information retrieved from the system included: basic demographic and sentence information, the number and type of vocational certificates obtained while incarcerated, and information on community employment obtained post-release.

Information on the codes used by CSC to categorize types of community employment acquired by offenders ("National Occupational Classification [NOC] codes") was obtained from Human Resources and Skills Development Canada's (HRSDC's) NOC 2006 system.⁴ NOC is the nationally-accepted reference on occupations in Canada. It is a tool used to classify

² Offenders released at the end of their sentence (i.e., Warrant Expiry Date) were not included as participants in the present study unless they also had a Long Term Supervision Order in effect, as only these individuals would still be overseen by CSC upon release into the community and, therefore, would have information available regarding their community employment.

³ A Long-Term Supervision Order allows for the long-term community supervision of high-risk offenders who have a propensity for causing serious harm to others but are perceived to have a reasonable possibility of eventual successful reintegration into the community.

⁴ For more information please visit *Human Resources and Skills Development Canada*
<http://www30.hrsdc.gc.ca/NOC/english/NOC/2006/Welcome.aspx>

occupations according to their skill level and skill type. A four-digit code identifies an occupation, with each digit of the code reflecting a trait of the occupation it represents. The first two digits represent the ‘major group’, the first digit being skill type and the second being skill level. There are ten skill types and four skill levels, resulting in 26 major groups. At the three-digit level, the major groups are further divided into 140 ‘minor groups’. At the four-digit level, these groups are expanded into 520 occupations groups identified as ‘unit groups’ (HRSDC, 2012). Thus, each digit in a NOC code provides more specificity regarding an occupation. CSC currently uses 64 three-digit NOC codes to classify offenders’ employment in the community, as well as two additional codes created to represent general managerial and professional occupational categories. The classification structure of the CSC-utilized NOC codes, including skill type, major group, and minor group, is presented in Appendix A.

Descriptions of all vocational training (“v-codes”) provided to the sample of offenders were obtained from CORCAN, the primary agency responsible for delivery of vocational training in the institutions. See Appendix B for a list of v-codes used by CORCAN.

Procedure/Analytic Approach

Figure 1 illustrates the different subsamples used for analyses throughout this report. Offenders were first descriptively profiled for their participation in institutional vocational training and post-release community employment activities. This profile was done for: (1) the total population - to examine the association between receiving a form of vocational certification and attainment of community employment post-release⁵; (2) all offenders who obtained community employment post-release - to explore what types of employment were most common; and (3) all offenders who obtained vocational certification while incarcerated - to explore what types of certificates were most common. Breakdowns by Aboriginal status and gender were also conducted.

Types of vocational certification obtained by offenders in the institution were then matched to the potential types of employment obtained by offenders in the community. To accomplish this matching, each v-code was categorized into one of nine categories that was based on the NOC code’s first digit, representing skill type. The occupational categories used

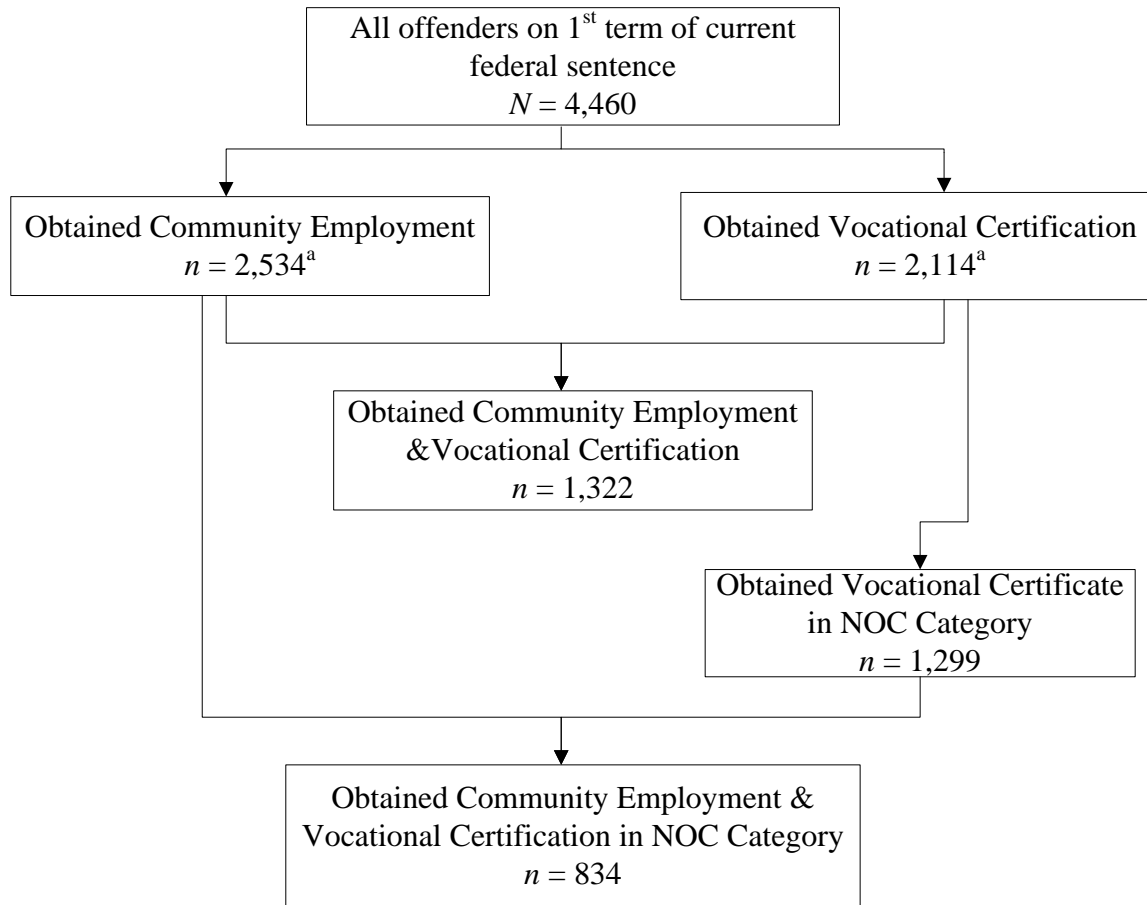
⁵ Cramer’s *V* effect size was used to determine the overall strength of association between variables. Cramer’s *V* is used to measure the association between two categorical variables. The closer *V* is to 0, the smaller the association between the variables, and the closer *V* is to 1, the stronger the association between the variables.

are: (1) Business, Finance and Administrative Occupations; (2) Natural and Applied Sciences and Related Occupations; (3) Health Occupations; (4) Occupations in Social Science, Education, Government Service and Religion; (5) Occupations in Art, Culture, Recreation and Sport; (6) Sale and Service Occupations; (7) Trades, Transport and Equipment Operators and Related Occupations; (8) Occupations Unique to Primary Industry; and (9) Occupations Unique to Processing, Manufacturing and Utilities (for more information, see Appendix A).

It is important to note that it was not possible to categorize all v-codes into a specific occupational category. CSC provides offenders with a variety of vocational training, including certification in areas that may be generalizable to all or many occupations (e.g., safety, general employability skills). Thus, these particular v-codes were not included in the congruence analysis conducted for the present study. Similarly, there are two codes used by CSC in the community to categorize jobs that were not officially part of the NOC system (Managers and Professional Occupations in Business, Finance, Natural Science, Applied Science, Health, Social Science, Education, Government Services, Religion and Art and Culture). This change was implemented to reflect more general managerial and professional occupations that do not necessarily fall under a particular NOC code. However, because these two areas are extremely broad and may reflect various types of occupations, they could not be used to categorize types of vocational certificates. A list of all categorized v-codes and corresponding matched NOC codes is presented in Appendix B. This list includes v-codes that were too general/specific in nature to apply to one specific job category.

Once the v-codes were categorized into the nine occupational groups, analyses were conducted to determine whether offenders who received at least one vocational certificate also obtained at least one community job in the same area. If yes, then the offender was considered to have a “match” in that particular occupational category. This analysis was done for each of the nine categories, as offenders were likely to have multiple vocational certificates and multiple jobs in the community that spanned the various categories. In using this approach, it is important to note that the current study did not take into account the relationship between the number of vocational certificates obtained by an offender in a particular area and the number of community jobs obtained in the same area. That is, if an offender had a match between one certificate and one job, it was counted as a match regardless of the number of other certificates or jobs that the offender obtained that did not constitute a match.

Figure 1. Subsamples used for analyses.



^aThese subsamples are not mutually exclusive.

Results

Overall Descriptive Profile

Of all offenders ($N = 4,460$), just under half (47.4%; $n = 2,114$) received at least one vocational certificate while incarcerated on the first term of their current federal sentence. Similarly, upon release to the community, half (56.8%; $n = 2,534$) obtained at least one job prior to the end of their first term supervision period (i.e., end-of-sentence, first return to custody, date of death or deportation) or before the end of the study follow-up period (see Table 1). With regard to gender, 46.1% of male offenders and 67.6% of women offenders obtained some form of vocational certification while incarcerated, whereas 57.4% of male offenders and 47.7% of women offenders obtained a job in the community. There appeared to be no association between gender and obtainment of vocational certification or community employment. In terms of Aboriginal ancestry, a greater proportion of Aboriginal offenders obtained vocational certification than non-Aboriginal offenders (57.6% vs. 45.2%), whereas a greater proportion of non-Aboriginal offenders obtained community employment than Aboriginal offenders (59.5% vs. 44.8%). However, the effect sizes for these two analyses were quite small (Cramer's $V = .09$ and $.11$, respectively).

A total of 1,322 offenders received both some form of vocational certification and at least one job in the community (29.6% of total sample; see Table 1). There was an association between receiving at least one vocational certificate while incarcerated and attainment of community employment post-release. More specifically, a greater proportion of offenders who obtained a job in the community also received at least one vocational certificate (52.2% vs. 41.1%; Cramer's $V = .11$).

Table 1
Frequencies of Offenders Who Obtained Community Employment by Vocational Certification Received

	Community Employment				Total	
	No		Yes			
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Vocational Certificate						
No	58.9	1,134	47.8	1,212	52.6	2,346
Yes	41.1	792	52.2	1,322	47.4	2,114
Total	43.2	1,926	56.8	2,534	100	4,460

Descriptive Profile of Offenders Who Obtained Community Employment

A profile of the offenders who obtained community employment was conducted to explore in which categories the majority of offenders obtained employment post-release. Presented in Table 2 are the frequencies of offenders who obtained a job in a specific category of community employment. These categories are based on the NOC 2006 system’s nine skill types (with the addition of the Managers and Professional categories used by CSC).

As demonstrated in the table, among offenders who obtained a job in the community, the most common area for offenders’ work was the area of Trades, Transport, and Equipment Operators and Related (subsequently referred to as “Trades”) followed by the Sales and Services category. Fewer than 10% of offenders obtained community employment in each of the following areas: Unique to Processing, Manufacturing, and Utilities; Unique to Primary Industry; Business, Finance, and Administration; and Art, Culture, Recreation, and Sport. Less than 1% obtained jobs in each of the remaining areas.

The frequencies of offenders who obtained a job in a specific category of community employment were also broken down by gender and Aboriginal ancestry (see Appendix C). Results revealed that the majority of male offenders got a job in Trades (68.8%), while the majority of women offenders got a job in the area of Sales and Services (60.6%). Trades was also the most common for both non-Aboriginal (64.7%) and Aboriginal (77.9%) offenders, when collapsed across gender.

As the occupational categories discussed here encompass numerous NOC codes, and thus various types of jobs, information on the specific jobs obtained by offenders, including their NOC code and frequencies, are presented in Appendix D. The majority of offenders who

obtained employment within the Trades category got a job in either Other Construction Trades (43.0%) or Trades Helpers and Labourers (30.7%). For the Sales and Services area, the most common job type obtained was Cleaner (20.4%), followed by Retail Salespersons and Sales Clerks (18.7%), Other Sales and Related Occupations (17.8%), Chefs and Cooks (17.8%), Occupations in Food and Beverage Service (15.7%), and Food Counter Attendants, Kitchen Helpers, and Related Occupations (12.3%).

Table 2

Frequencies of Offenders Who Obtained a Job in a Specific Category of Community Employment

Category of Community Employment	%	<i>n</i>
Trades, Transport, and Equipment Operators and Related	66.7	1,689
Sales and Services	32.1	813
Unique to Processing, Manufacturing, and Utilities	7.9	199
Unique to Primary Industry	6.0	152
Business, Finance, and Administration	7.1	181
Art, Culture, Recreation, and Sport	1.2	30
Social Science, Education, Government Service, and Religion	1.1	29
Professional Occupations in Business, Finance, Natural Science, Applied Science, Health, Social Science, Education, Government Services, Religion, Art, and Culture ^a	0.9	22
Managers ^a	0.6	16
Natural and Applied Sciences and Related	0.4	11
Health	0.3	7

Note. $N = 2,534$. The percentages do not sum to 100% as an offender may have obtained multiple jobs in the different categories of community employment.

^a These are the two codes used by CSC that do not correspond to an actual NOC code.

Descriptive Profile of Offenders Who Obtained Vocational Certification

A profile of the offenders who received vocational certification was also conducted to explore the most common types of vocational certificates obtained by offenders prior to their release. The frequencies of offenders who obtained at least one vocational certificate in a particular category (based on the NOC 2006 system) are presented in Table 3. Of all offenders who received some form of vocational certification ($N = 2,114$), 82.9% ($n = 1,753$) received at least one certificate in the ‘other’ category. This category was created to reflect the vocational certificates that were not categorized into one of the occupational groups (as described in the methodology section), and provide more general employability or job readiness skills. It should

be noted that 38.6% ($n = 815/2,114$) of offenders who obtained some form of vocational certification received *only* certificates in the ‘other’ category. As a result, these individuals were excluded from calculations involving the total number of offenders receiving vocational certification in a specific category. The total sample of offenders used for the remainder of the analyses was therefore $N = 3,645$.

As previously mentioned, analyses involving the full sample of offenders that included ‘other’ vocational certificates revealed that 29.6% of those who received vocational certification subsequently obtained community employment. When examining the data using the restricted sample of offenders (excluding those with only ‘other’ vocational certification), a total of 834 (22.9%) offenders received both vocational certification and at least one job in the community classifiable in a NOC category. Analyses still revealed a small association between receiving at least one vocational certificate while incarcerated and attainment of community employment post-release (Cramer’s $V = .12$). A greater proportion of offenders who obtained a job in the community than of those who did not also received at least one vocational certificate (40.8% vs. 29.1%). These results are presented in Table 3.

Table 3
Frequencies of Offenders Who Obtained Community Employment by Vocational Certification Received (Excluding ‘Other’ Certificates)

	Community Employment				Total	
	No		Yes			
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Vocational Certificate						
No	70.9	1,134	59.2	1,212	64.4	2,346
Yes	29.1	465	40.8	834	35.6	1,299
Total	43.9	1,599	56.1	2,046	100	3,645

Further vocational profile results revealed that just over three-quarters of this sample of offenders (77.6%) received a certificate in the area of Trades and 31.6% received a certificate in the area of Sales and Services. Less than 5% received a certificate in each of the areas Unique to Primary Industry, Unique to Processing, Manufacturing, and Utilities, and Business, Finance, and Administration, and no offenders received certificates in the areas of Natural and Applied Sciences and Art, Culture, Recreation, and Sport. The areas of Health and Social Science, Education, Government Service, and Religion were not applicable as there were no vocational certificates offered in these categories.

Additionally, Table 4 displays the frequencies of offenders who received at least one vocational certificate but who did and did not obtain a job in the community. This comparison was done to determine whether a particular category of vocational certification was more or less likely to be associated with getting a job in the community. Frequencies, however, showed a similar pattern to that of overall vocational certification obtainment, with the majority of offenders who received vocational certification doing so in the areas of Trades and Sales and Services, regardless of job attainment in the community.

The frequencies of offenders who obtained vocational certification in a specific category were also broken down by gender and Aboriginal ancestry. These results are presented in Appendix E. Overall, results showed that the majority of all offenders, regardless of gender or Aboriginal ancestry, received at least one vocational certificate in the area of Trades, Transport, and Equipment Operators and Related. The area with the second greatest frequency of offenders receiving vocational certificates was Sales and Services. This category of vocational certification was greatest for women, with 60.4% of women offenders having obtained certification in the area compared to 28.2% of men.

Table 4

Frequencies of Offenders Receiving Vocational Certification in a Specific Category

Category of Vocational Certification	Total Received Vocational Certification (<i>N</i> = 1,299)		Received Vocational Certification & No Job (<i>N</i> = 465)		Received Vocational Certification & Job (<i>N</i> = 834)	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Trades, Transport, and Equipment Operators and Related	77.6	1,008	70.8	329	81.4	679
Sales and Services	31.6	411	36.1	168	29.1	243
Unique to Primary Industry	5.1	66	4.7	22	5.3	44
Unique to Processing, Manufacturing, and Utilities	3.1	40	3.0	14	3.1	26
Business, Finance and Administration	0.2	3	0.4	2	0.1	1
Natural and Applied Sciences and Related	0	0	0	0	0	0
Art, Culture, Recreation, and Sport	0	0	0	0	0	0
Health	-	-	-	-	-	-
Social Science, Education, Government Service, and Religion	-	-	-	-	-	-

Note. The column percentages do not sum to 100% as an offender may have obtained multiple vocational certificates in different categories. Categories in which vocational certificates are offered but were not present in the study sample are denoted by a zero while categories in which vocational certificates are not offered are denoted by a “-”.

Congruence Between Vocational Certification and Community Employment

Results revealed that of those offenders who both: (a) received at least one vocational certificate while incarcerated and (b) obtained at least one job in the community prior to the end of their supervision period or the end-of-study date (excluding those individuals who *only* received vocational certification in the other category), 68.5% (571/834) had a match between

the two.⁶ The majority of offenders with both vocational certification and community employment had matches occurring in the area of Trades (58.3%), followed by Sales and Services (12.1%), Unique to Primary Industry (0.4%), and Unique to Processing, Manufacturing, and Utilities (0.1%). Results are presented in Table 5.

The frequencies of offenders who obtained a vocational certificate-community employment match in a specific occupational category were also broken down by gender and Aboriginal ancestry (see Appendix F). When broken down by gender, the majority of men had a match in the area of Trades (60.9%), followed by a 9.5% match in the area of Sales and Services. For women, the majority of offenders had a match in the area of Sales and Services (40.6%), followed by Trades (29.0%). The majority of both non-Aboriginal and Aboriginal offenders, across genders, had a match in the area of Trades (55.6% and 69.3%, respectively), followed by Sales and Services (13.4% and 6.8%, respectively).

⁶ Twenty individuals had a match in two employment categories.

Table 5
Frequencies of Offenders Receiving Vocational Certification and Community Employment within Specific Categories and Matches Obtained

Job Category	Offenders with Vocational Certification and Community Employment (N = 834)					
	Vocational Certificate		Community Employment		Match	
	%	n	%	n	%	n
Trades, Transport, and Equipment Operators and Related	81.4	679	69.5	580	58.3	486
Sales and Services	29.1	243	30.9	258	12.1	101
Unique to Primary Industry	5.3	44	6.5	54	0.4	3
Unique to Processing, Manufacturing, and Utilities	3.1	26	7.1	59	0.1	1
Business, Finance, and Administration	0.1	1	5.5	46	0	0
Art, Culture, Recreation and Sport	0	0	1.2	10	0	0
Natural and Applied Sciences and Related	0	0	0.4	3	0	0
Health	-	-	0.4	3	-	-
Social Science, Education, Government Service, and Religion	-	-	0.7	6	-	-

Note. The column percentages do not value 100% as an offender may have obtained multiple vocational certificates and/or jobs in different categories. Categories in which vocational certificates are offered but were not present in the study sample are denoted by a zero while categories in which vocational certificates are not offered are denoted by a “-”.

As the majority of matches occurred within the area of Trades, a further analysis was conducted to examine the specific types of Trades vocational certificates obtained by offenders with a Trades vocational certificate-community employment match. As presented in Appendix G, these results revealed that the majority of offenders with a match in the Trades area received Forklift Certification (48.4%), followed by Construction Safety (39.5%), Work Safely with Power Tools (18.5%), and Construction Techniques (10.1%). Less than 10% of offenders with a match in the Trades area received vocational certificates in the other areas.

Discussion

This study was undertaken to determine if the type(s) of vocational training certification obtained by offenders during their most recent incarceration would be linked to the type(s) of employment they acquired in the community following release. Descriptive profiling information was provided to give context to the vocational training and community employment analyses.

While research has previously addressed the issue of whether vocational training positively affects institutional and community outcomes for offenders (e.g., Bouffard et al., 2000; Gordon & Weldon, 2003; Jensen & Reed, 2006; Nolan et al., in press; Saylor & Gaes, 1996; Wilson et al., 2000), the rate of congruence between the type of vocational training and community employment has been a considerable gap in the research. As previously noted, one study by Taylor (2008) examined levels of vocational congruence as measured by the fit between an offender's personal vocational interests and their working environment. Overall, results revealed that vocational congruence was not statistically significant in the prediction of most correctional outcomes; however, offenders who obtained jobs that provided high congruence environments lasted longer in the community than those offenders who were unemployed (Taylor, 2008). Thus, preliminary research in the area suggests that personal vocational congruence may have an impact on reintegration efforts. While the present study did not examine "fit", it is likely that offenders choose to take vocational training in areas in which they are most interested in working.

The present study was specifically interested in the number and types of "matches" that would occur between offenders' vocational certificates and community jobs. Given that CSC's goal of delivering vocational training is to provide offenders with knowledge and skills that are transferable to the workplace, it was anticipated that having more knowledge in this area could help to ensure that the most relevant vocational activities are being provided to offenders. The relevance of the vocational training was based on the types of jobs that offenders would be most likely to obtain in the community.

Overall, the results suggested that having a vocational certificate of any type provided a modest advantage to finding employment in the community, with 53% of offenders who obtained a certificate finding employment compared to 42% of offenders who did not have a certificate. This finding is consistent with previous research which suggests that institutional

vocational programs increase the likelihood of job attainment in the community (Nolan et al., in press; Saylor & Gaes, 1996; Taylor et al., 2008).

The occupational area in which offenders were most likely to receive vocational training was also the area in which they were most likely to obtain employment. With an overall 78% of offenders obtaining vocational certificates in the area of Trades and 64% of offenders obtaining employment in the area of Trades, CSC appears to be focusing its vocational certification resources appropriately. This area also had the highest rate of congruence; among offenders who received at least one vocational certificate while incarcerated and obtained at least one job in the community prior to the end of the supervision or follow-up period, 58% had a match in the Trades area.

Second in prevalence for vocational certificates and community employment was the occupational area of Sales and Services. Thirty-two percent of the total number of offenders in the present study obtained work in this area; however, it was more common for women, with 61% of women offender employment falling into this category. Similarly, while 32% of all offenders received vocational certificate(s) in this area, 60% of women did so. Again, these results suggest that CSC's focus is shifted appropriately to meet the needs of women offenders. However, it should be noted that the congruence rate for women in this area was only 41%, suggesting that there is still some disconnect in the institutional vocational training being provided and the types of community employment being obtained. The issue of employment in women may differ from that of men in other ways. Only 69 of the 139 women in our sample who earned a vocational certificate also attained employment in the community. In the Canadian population generally, women do more unpaid work than men, including time spent on child care and domestic work, and men make up a greater percentage of the work force (52%), although this gap is narrowing over time (Milan, Keown, & Urquijo, 2001). For the women in this study, it was not known what, if any, effect these general trends in gender differences had on the results. Ideally, information that more clearly differentiates between those offenders who are unemployed due to lack of employment opportunities and/or lack of motivation to actively search for work and those who choose not pursue paid work for other reasons (e.g., child care, student) should be collected in the future.

The extremely low level of congruence (less than 1% or 0%) in areas other than Trades and Sales and Services is potentially problematic. With a relatively small number of offenders

working in areas other than Trades and Sales and Services, and even fewer being awarded certificates in these areas, the value of these vocational certificates is questionable. For example, 44 offenders received certificates in the area Unique to Primary Industry and 54 offenders found work in this same area, yet only 3 offenders had a match. This disconnect raises the question of how these vocational certificates assist offenders in finding employment in the community.

While the relationship was relatively weak, results also suggested that Aboriginal offenders were significantly more likely to obtain vocational certification than non-Aboriginal offenders, yet less likely to obtain community employment. These findings are consistent with previous research which found that, compared to Aboriginal offenders, non-Aboriginal offenders were more likely to obtain community employment and higher quality jobs than their Aboriginal counterparts (Gillis & Andrews, 2005). However, research by Nolan et al. (in press) found that institutional participation in CORCAN job-readiness activities was significantly associated with reductions in recidivism for Aboriginal offenders even after controlling for other important factors related to outcomes, suggesting that vocational programs may be particularly important for this population. Interestingly, the present study also found that Aboriginal offenders had the highest congruence rate, with 69% obtaining vocational certificates and community employment in Trades area. Future research should therefore examine the relationship between vocational training, job attainment, and recidivism in Aboriginal offenders in more detail.

Limitations and Future Directions

There are a number of limitations with the present study that should be noted. Firstly, with regard to the types of community employment obtained, we do not know the effect of the qualifications/education/experience previously obtained by offenders. In some cases, it is possible that institutional vocational training was not needed for the offender to be employable in a given area. Furthermore, it was impossible to account for an individual's motivation for obtaining a particular vocational certificate or not. Given the positive relationship between obtaining vocational certification and likelihood of community employment, it may be important to consider level of motivation as a potentially contributing third factor. It is also important to acknowledge that we were only interested in the vocational training received during an offender's most recent period of incarceration; therefore previously obtained vocational certificates or training and experience were not considered. Future research could examine such

factors as offenders' employment needs, motivations, prior education, and employment experience and how these factors interact with the types of jobs obtained in the community.

A further limitation is that vocational courses and corresponding certificates provided by CSC are not given a NOC code in the way in which the jobs obtained by offenders in the community are. Therefore, the authors were required to code the v-codes using the descriptions available to match them most appropriately to a particular category of employment (as based on the NOC 2006 system). Correspondingly, it was not possible to code several of the vocational certificates into specific occupational categories because they are focused on general employability skills and/or are safety-oriented in nature and, thus, are applicable to various types of occupations that span different types and skill levels. Nonetheless, future research should explore the value of offering these certificates given the large number awarded.

It should also be noted that the way in which we choose to determine congruence between vocational certification and community employment could be considered generous in two ways. First of all, vocational certificates were not matched one-on-one to a particular job in the community as defined by its NOC code, but rather the v-codes were collapsed into occupational categories and matched to community employment NOC code categories. Future research could consider assessing the rate of congruence between specific certificates and jobs, rather than broader occupational categories. Secondly, the present study did not take into consideration the number of different jobs an offender may have had in the community and the corresponding number of vocational certificates received in that particular area. Theoretically, an individual could have several certificates and several jobs but only one match; however, in the present study the number of non-matches were not accounted for.

It may be argued that there is a difference between vocational programming and vocational training. This difference is reflected in the dual delivery responsibility of CSC's vocational programming between CORCAN and the Education Portfolio of Reintegration Programs Division (RPD). Some vocational programming is incorporated into the attainment of a high school diploma and is accredited by the Ministry of Education, whereas other programs are certified by third-party employers. Due to the nature of the available data, it was not possible to determine which vocational certificates were administered by whom. The determination of this difference would be ideal for comparison purposes as it would permit the examination of potential differences between education-oriented vocational programming and professional

vocational training.

Conclusions

The present study assessed whether the type(s) of community employment obtained by offenders on release corresponded with their institutional vocational certification. Overall, results demonstrated that the majority of offenders obtained community employment in the Trades and Sales and Services occupations. These areas also had the greatest level of congruence with vocational certification, suggesting that the delivery of vocational training in these areas is appropriate for CSC's offender population. However, the low level of congruence for the other occupational areas raises the question of the applicability of the delivery of vocational training in these areas to incarcerated offenders. Future research should examine the reason for delivering these certifications, the benefits or value of these certifications, and what factors are most likely to influence offenders obtaining these types of occupations.

Finally, results suggest that, consistent with previous research, having a vocational certificate of any type may provide an advantage to finding employment in the community. It may be that vocational training may more generally prepare offenders for jobs and provide transferable skills rather than specific skills for a job. In the future, researchers may want to explore the benefits of particular components of vocational programming (e.g., specific skills, general skills, hands-on training, safety skills) to determine what exactly is most effective.

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Appendix A: Classification Structure of CSC-Utilized NOC Codes in the Community

Skill Type		Major Group		Minor Group	
1	Business, Finance and Administrative Occupations	12	Skilled Administrative and Business Occupations	121	Clerical Supervisors
		14	Clerical Occupations	122	Administrative and Regulatory Occupations
				123	Finance and Insurance Administrative Occupations
				124	Secretaries, Records and Transcriptionists
				141	Clerical Occupations, General Office Skills
				145	Library, Correspondence and Related Information Clerks
				147	Recording, Scheduling and Distributing Occupations
2	Natural and Applied Sciences and Related Occupations	22	Technical Occupations Related to Natural and Applied Sciences	224	Technical Occupations in Electronics and Electrical Engineering
3	Health Occupations	34	Assisting Occupations in Support of Health Services	341	Assisting Occupations in Support of Health Services
4	Occupations in Social Science, Education, Government Service and Religion	41	Professional Occupations in Social Science, Education, Government	414	Secondary and Elementary School Teachers and Educational Counsellors
		42	Paraprofessional Occupations in Law, Social Services, Education and Religion	415	Psychologists, Social Workers, Counsellors, Clergy and Probation Officers
				416	Policy and Program Officers, Researchers and Consultants
				421	Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.
5	Occupations in Art, Culture, Recreation and Sport	51	Professional Occupations in Art and Culture	512	Writing, Translating and Public Relations Professionals
		52	Technical and Skilled Occupations in Art, Culture, Recreation and Sport	513	Creative and Performing Artists
				522	Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
				524	Creative Designers and Craftspersons
				525	Athletes, Coaches, Referees and Related Occupations
6	Sale and Service Occupations	62	Skilled Sales and Services Occupations	624	Chefs and Cooks
		64	Intermediate Sales and Services Occupations	625	Butchers and Bakers
				627	Technical Occupations in Personal Service
				642	Retail Salespersons and Sales Clerks
				643	Occupations in Travel and Accommodation
				645	Occupations in Food and Beverage Service
				647	Childcare and Home Support Workers
				648	Other Occupations in Personal Service
		66	Elemental Sales and Services Occupations	662	Other Sales and Related Occupations
				664	Food Counter Attendants, Kitchen Helpers and Related
				666	Cleaners

		667	Other Occupations in Travel, Accommodation, Amusement and Recreation
		668	Other Elemental Service Occupations
7	Trades, Transport and Equipment Operators and Related Occupations	72- 73	Trades and Skilled Transport and Equipment Operators
		74	Intermediate Occupations in Transport, Equipment Operation, Installation and Maintenance
		76	Trades Helpers, Construction Labourers and Related Occupations
		724	Electrical Trades and Telecommunication Occupations
		725	Plumbers, Pipefitters and Gas Fitters
		726	Metal Forming, Shaping and Erecting Trades
		727	Carpenters and Cabinetmakers
		728	Masonry and Plastering Trades
		729	Other Construction Trades
		732	Automotive Service Technicians
		733	Other Mechanics
		741	Motor Vehicle and Transit Drivers
		742	Heavy Equipment Operators
		744	Other Installers, Repairers and Servicers
		745	Longshore Workers and Material Handlers
		761	Trades Helpers and Labourers
		762	Public Works and Other Labourers, n.e.c.
8	Occupations Unique to Primary Industry	84	Intermediate Occupations in Primary Industry
		86	Labourers in Primary Industry
		841	Mine Service Workers and Operators in Oil and Gas Drilling
		842	Logging and Forestry Workers
		843	Agriculture and Horticulture Workers
		844	Other Fishing and Trapping Occupations
9	Occupations Unique to Processing, Manufacturing and Utilities	94	Processing and Manufacturing Machine Operators and Assemblers
		96	Labourers in Processing, Manufacturing and Utilities
		941	Machine Operators and Related Workers in Metal and Mineral Products Processing
		942	Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing
		943	Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing
		944	Machine Operators and Related Workers in Textile Processing
		945	Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing
		946	Machine Operators and Related Workers in Food, Beverage and Tobacco Processing
		947	Printing Machine Operators and Related Occupations
		948	Mechanical, Electrical and Electronics Assemblers
		949	Other Assembly and Related Occupations
		961	Labourers in Processing, Manufacturing and Utilities

Appendix B: Matching of CSC Vocational Certificates to CSC-Utilized NOC Codes in the Community by Skill Type

Skill Type Category	CSC Vocational Certificate Code	CSC Utilized Community Employment NOC Code
Business, Finance and Administration Occupations	<ul style="list-style-type: none"> • V28: Auto Service Clerk • V33: Library Clerk • V39: Ship & Receiver Clerk • V40: Inventory Clerk • V58: Accounting • V97: Store & Grocery Clerk • V99: Office Clerk • V101: Storekeeper • V160: Sports Eqp Wk 	<ul style="list-style-type: none"> • NOC121: Clerical Supervisors • NOC122: Administrative and Regulatory Occupations • NOC123: Finance and Insurance Administrative Occupations NOC124: Secretaries, Recorders and Transcriptionists • NOC141: Clerical Occupations, General Office Skills • NOC145: Library, Correspondence and Related Information Clerks • NOC147: Recording, Scheduling and Distributing Occupations
Natural and Applied Sciences and Related Occupations	<ul style="list-style-type: none"> • V84: Basic AutoCAD • V85: Intermediate AutoCAD • V89: Advanced AutoCAD • V91: Intro to AutoCAD • V115: CFS-Computer Refurbishment 	<ul style="list-style-type: none"> • NOC224: Technical Occupations in Electronics and Electrical Engineering
Health Occupations	None Applicable	<ul style="list-style-type: none"> • NOC341: Assisting Occupations in Support of Health Services
Occupations in Social Science, Education, Government Service and Religion	None Applicable	<ul style="list-style-type: none"> • NOC414: Secondary and Elementary School Teachers and Educational Counsellors • NOC415: Psychologists, Social Workers, Counsellors, Clergy and Probation Officers • NOC416: Policy and Program Officers, Researchers and Consultants • NOC421: Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.
Occupations in Art, Culture, Recreation and Sport	<ul style="list-style-type: none"> • V105: Assistant Ceramic Artist 	<ul style="list-style-type: none"> • NOC512: Writing, Translating and Public Relations Professionals • NOC513: Creative and Performing Artists • NOC522: Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts • NOC524: Creative Designers and Craftspersons • NOC525: Athletes, Coaches, Referees and Related Occupations
Sales and Services Occupations	<ul style="list-style-type: none"> • V05: Basic Food Safety • V08: Industrial Cleaning 	<ul style="list-style-type: none"> • NOC624: Chefs and Cooks • NOC625: Butchers and Bakers

	<ul style="list-style-type: none"> • V18: Cook Training • V19: Building Service Worker • V22: Butcher Helper • V24: Pastry Cook Help • V25: Food Prep Worker • V46: Laundry and Dry-Cleaner Helper • V86: Dog Trainer (Canine Program) • V87: Dishwasher Operations • V96: Advanced Food Safety • V138: Culinary Arts Techniques I • V139: Culinary Arts Techniques II • V148: Meat Cutting • V152: Superhost • V153: Ready To Work 	<ul style="list-style-type: none"> • NOC627: Technical Occupations in Personal Service • NOC642: Retail Salespersons and Sales Clerks • NOC643: Occupations in Travel and Accommodation • NOC645: Occupations in Food and Beverage Service • NOC647: Childcare and Home Support Workers • NOC648: Other Occupations in Personal Service • NOC662: Other Sales and Related Occupations • NOC664: Food Counter Attendants, Kitchen Helpers and Related Occupations • NOC666: Cleaners • NOC667: Other Occupations in Travel, Accommodation, Amusement and Recreation • NOC668: Other Elemental Service Occupations
<p>Trades, Transport and Equipment Operators and Related Occupations</p>	<ul style="list-style-type: none"> • V09: Forklift Operator Propane Training • V13: Welding Program • V16: Carpentry I • V17: Construction Safety • V32: LGT Vehic Tool • V35: Gen Material Handler • V43: Assistant Cabinet Maker • V45: Upholster Hpr • V49: Wood & Other Lbr • V50: Textile Tailor Worker • V53: Auto Painter • V54: Bricklayer-Masonry • V55: Cabinet Maker • V57: Welding I • V61: Hoisting & Rigging • V63: Propane in Construction Safety • V65: Traffic Control Awareness • V68: Work Safely with Power Tools • V69: Forklift Certification • V71: Traffic Control Person • V83: Elt Electrical • V90: Fundamental Shop Skills • V94: Construction Framing 	<ul style="list-style-type: none"> • NOC724: Electrical Trades and Telecommunication Occupations • NOC725: Plumbers, Pipefitters and Gas Fitters • NOC726: Metal Forming, Shaping and Erecting Trades • NOC727: Carpenters and Cabinetmakers • NOC728: Masonry and Plastering Trades • NOC 729: Other Construction Trades • NOC732: Automotive Service Technicians • NOC733: Other Mechanics • NOC741: Motor Vehicle and Transit Drivers • NOC742: Heavy Equipment Operators • NOC744: Other Installers, Repairers and Servicers • NOC745: Longshore Workers and Material Handlers • NOC761: Trades Helpers and Labourers • NOC762: Public Works and Other Labourers, n.e.c.

	<ul style="list-style-type: none"> • V104: Rebar Pre-Apprentice • V106: Autobody Shop • V110: Water Systems • V113: Housing Quality Initiative • V118: Construction Techniques • V119: Drill Floorman • V140: Pre-Trade Construction • V141: Pre-Trade Welding • V143: Skid Steer Operator • V144: Mini Excav/Back Hoe Operator • V147: Brickwork-Masonry • V150: Welding Fundamentals • V154: Drywall Installation • V155: Overhead Crane • V158: Outdoor Power Equipment Program/Small Engine Repair • V161: Carpentry II • V162: Welding Apprenticeship II 	
Occupations Unique to Primary Industry	<ul style="list-style-type: none"> • V12: Chainsaw Safety • V75: Reforestation Training Program • V77: Pesticide Application • V103: Agriculture Machinery Worker • V108: ON Fur Trapper • V120: Horticulture I • V121: Horticulture II • V122: Landscape Design • V123: Landscape Employ Prep • V124: 21 Inch Mower • V125: Edging Trimmer • V130: Wildfire Crew Course • V131: Wildfire Crew Course (Practical) • V144: Mini Excav/Back Hoe Operator • V145: Ground Disturbance • V149: Dairy Production Tech Level I • V151: Cattle Artificial Insemination 	<ul style="list-style-type: none"> • NOC841: Mine Service Workers and Operators in Oil and Gas Drilling • NOC842: Logging and Forestry Workers • NOC843: Agriculture and Horticulture Workers • NOC844: Other Fishing and Trapping Occupations • NOC861: Primary Production Labourers
Occupations Unique to Processing, Manufacturing and Utilities	<ul style="list-style-type: none"> • V38: Metal Fabrication Helper • V42: Industrial Product Assembler 	<ul style="list-style-type: none"> • NOC941: Machine Operators and Related Workers in Metal and Mineral Products Processing

	<ul style="list-style-type: none"> • V43: Assistant Cabinet Maker • V44: Furn Painter-Coater • V52: Sewing Machine Operator • V55: Cabinet Maker • V56: Industrial Design • V73: Printing Helper • V74: Pouch Packaging Cert (Dairy Plant) • V100: Factory Panel Assembler • V103: Agriculture Machinery Worker • V107: Woodwork Labourer • V112: Printing and Graphic Arts • V142: Fur Machine Operator • V143: Skid Steer Operator 	<ul style="list-style-type: none"> • NOC942: Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing • NOC943: Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing • NOC944: Machine Operators and Related Workers in Textile Processing • NOC945: Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing • NOC946: Machine Operators and Related Workers in Food, Beverage and Tobacco Processing • NOC947: Printing Machine Operators and Related Occupations • NOC948: Mechanical, Electrical and Electronics Assemblers • NOC949: Other Assembly and Related Occupations • NOC 961: Labourers in Processing Manufacturing and Utilities
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General/Safety Orientated V-Codes	<ul style="list-style-type: none"> • V06: WHMIS • V07: Safe St Pre-Emp • V14: First Aid • V15: Portfolio & Essential Skills • V20: NESP • V21: Socio-Occ Integration Services • V30: Petroleum Ind Safety Training • V59: Fall Protection • V60: CPR Recertification • V62: Ladders and Scaffolding • V64: Respirator Info Session • V66: Transport of Dangerous Goods • V67: Computer Training • V70: Safety Orientation • V72: Book Repair • V76: Fire Suppression • V78: Personal Protective Equipment • V79: Hydro Sulfide/Sulpher Dioxide • V80: Protection Orientation • V81: Surfaces Orientation • V82: Confined Space • V88: PLAR • V92: Back Safety 	Applicable to many possible work assignments.
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	<ul style="list-style-type: none">• V93: Hearing Protection• V95: Aboriginal Workshops & Teachings• V98: Peer Educ Counselling• V102: Preparation for Labour Market• V111: Occupational Health & Safety• V132: Asbestos Awareness• V133: Lockout/Tagout• V134: Environmental Awareness Waste & Chemicals• V135: Diversity Food for Thought• V146: Elevated Platforms• V156: Non-Violent Crisis Intervention• V157: H2S Alive/Oilfield Safety• V159: Entrepreneur Workshop• V163: Microsoft Office Word 2007• V164: Microsoft Office Excel 2007• V165: Microsoft Office Powerpoint 2007• V166: Driver Improvement Training• GUID	
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Appendix C: Community Employment Profile by Gender and Aboriginal Ancestry

Category of Community Employment	Gender				Aboriginal Ancestry			
	Men		Women		Non-Aboriginal		Aboriginal	
	(<i>N</i> = 2,407)		(<i>N</i> = 127)		(<i>N</i> = 2,167)		(<i>N</i> = 358)	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Trades, Transport, and Equipment Operators and Related	68.8	1,657	25.2	32	64.7	1,403	77.9	279
Sales and Services	30.6	736	60.6	77	33.7	730	22.6	81
Unique to Processing, Manufacturing, and Utilities	7.9	191	6.3	8	8.4	182	4.7	17
Unique to Primary Industry	6.1	147	3.9	5	6.0	130	6.2	22
Business, Finance, and Administration	6.6	159		22	7.7	167	3.6	13
Art, Culture, Recreation, and Sport	1.2	29	0.8	1	1.2	27	0.8	3
Social Science, Education, Government Service, and Religion	1.0	23	4.7	6	1.2	25	1.1	4
Professional Occupations in Business, Finance, Natural Science, Applied Science, Health, Social Science, Education, Government Services, Religion, Art, and Culture	0.8	19	2.4	3	0.9	20	0.6	2
Managers	0.6	15	0.8	1	0.7	16	0	0
Natural and Applied Sciences and Related	0.5	11	0	0	0.5	11	0	0
Health	0.1	3	3.2	4	0.3	7	0	0

Note. The percentages do not sum to 100% as an offender may have obtained multiple jobs in the different categories of community employment.

Appendix D: Frequencies of Types of Community Employment Obtained

Category of Employment	Of Total Employed (<i>N</i> = 2,534)	Specific Community Employment NOC Code	%	<i>n</i>
Trades, Transport and Equipment Operators and Related Occupations	(<i>n</i> = 1,689) 66.7%	NOC729: Other Construction Trades	43.0	727
		NOC761: Trades Helpers and Labourers	30.7	519
		NOC727: Carpenters and Cabinetmakers	7.4	125
		NOC744: Other Installers, Repairers and Servicers	6.9	117
		NOC745: Longshore Workers and Material Handlers	5.9	99
		NOC742: Heavy Equipment Operators	5.5	93
		NOC741: Motor Vehicle and Transit Drivers	5.3	89
		NOC762: Public Works and Other Labourers, n.e.c.	4.6	78
		NOC733: Other Mechanics	4.6	78
		NOC732: Automotive Service Technicians	4.6	78
		NOC726: Metal Forming, Shaping and Erecting Trades	4.2	71
		NOC728: Masonry and Plastering Trades	3.6	60
		NOC724: Electrical Trades and Telecommunication Occupations	1.8	30
		NOC725: Plumbers, Pipefitters and Gas Fitters	1.5	25
NOC734: Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations	0.5	9		
Sales and Services Occupations	(<i>n</i> = 813) 32.1%	NOC666: Cleaners	20.4	166
		NOC642: Retail Salespersons and Sales Clerks	18.7	152
		NOC662: Other Sales and Related Occupations	17.8	145
		NOC624: Chefs and Cooks	17.8	145
		NOC645: Occupations in Food and Beverage Service	15.7	128
		NOC664: Food Counter Attendants, Kitchen Helpers and Related Occupations	12.3	100
		NOC668: Other Elemental Service Occupations	5.8	47
		NOC648: Other Occupations in Personal Service	5.0	41
		NOC625: Butchers and Bakers	4.3	35
		NOC627: Technical Occupations in Personal Service	2.5	20
		NOC643: Occupations in Travel and Accommodation	1.1	9
		NOC667: Other Occupations in Travel, Accommodation, Amusement and Recreation	0.9	7
		NOC647: Childcare and Home Support Workers	0.6	5

Occupations Unique to Processing, Manufacturing and Utilities	(n = 199) 7.9%	NOC949: Other Assembly and Related Occupations	71.3	142
		NOC961: Labourers in Processing, Manufacturing and Utilities	51.3	102
		NOC941: Machine Operators and Related Workers in Metal and Mineral Products Processing	9.0	18
		NOC942: Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing	6.0	12
		NOC948: Mechanical, Electrical and Electronics Assemblers	5.5	11
		NOC946: Machine Operators and Related Workers in Food, Beverage and Tobacco Processing	4.5	9
		NOC943: Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing	4.0	8
		NOC947: Printing Machine Operators and Related Occupations	1.5	3
		NOC944: Machine Operators and Related Workers in Textile Processing	2.0	4
		NOC945: Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing	0.5	1
Business, Finance and Administration Occupations	(n = 181) 7.1%	NOC147: Recording, Scheduling and Distributing Occupations	53.6	97
		NOC141: Clerical Occupations, General Office Skills	27.1	49
		NOC122: Administrative and Regulatory Occupations	12.7	23
		NOC123: Finance and Insurance Administrative Occupations	4.4	8
		NOC121: Clerical Supervisors	4.4	8
		NOC145: Library, Correspondence and Related Information Clerks	3.3	6
		NOC124: Secretaries, Recorders and Transcriptionists	2.8	5
Occupations Unique to Primary Industry	(n = 152) 6.0%	NOC843: Agriculture and Horticulture Workers	47.4	72
		NOC861: Primary Production Labourers	32.2	49
		NOC841: Mine Service Workers and Operators in Oil and Gas Drilling	28.9	44
		NOC842: Logging and Forestry Workers	13.8	21
		NOC844: Other Fishing and Trapping Occupations	12.5	19

Occupations in Art, Culture, Recreation and Sport	(n = 30) 1.2%	NOC524: Creative Designers and Craftspersons NOC525: Athletes, Coaches, Referees and Related Occupations NOC522: Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts NOC513: Creative and Performing Artists NOC512: Writing, Translating and Public Relations Professionals	40 36.7 16.7 6.7 6.7	12 11 5 2 2
Occupations in Social Science, Education, Government Service and Religion	(n = 29) 1.1%	NOC415: Psychologists, Social Workers, Counsellors, Clergy and Probation Officers NOC414: Secondary and Elementary School Teachers and Educational Counsellors NOC416: Policy and Program Officers, Researchers and Consultants NOC421: Paralegals, Social Services Workers and Occupations in Education and Religion	10.3 6.9 3.4 3.4	3 2 1 1
Professional Occupations in Business, Finance, Natural Science, Applied Science, Health, Social Science, Education, Government Services, Religion, Art and Culture	(n = 22) 0.9%			
Mangers	(n = 16) 0.6%			
Natural and Applied Sciences and Related Occupations	(n = 11) 0.4%	NOC224: Technical Occupations in Electronics and Electrical Engineering	100	11
Health Occupations	(n = 7) 0.3%	NOC341: Assisting Occupations in Support of Health Services	100	7

Appendix E: Vocational Certification Profile by Gender and Aboriginal Ancestry

Category of Vocational Certification	Gender				Aboriginal Ancestry			
	Men (<i>N</i> = 1,160)		Women (<i>N</i> = 139)		Non-Aboriginal (<i>N</i> = 977)		Aboriginal (<i>N</i> = 319)	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Trades, Transport, and Equipment Operators and Related	78.4	910	70.5	98	77.6	758	77.7	248
Sales and Services	28.2	327	60.4	84	33.7	329	25.4	81
Unique to Primary Industry	4.0	46	14.4	20	2.6	25	12.5	40
Unique to Processing, Manufacturing, and Utilities	3.4	40	0	0	1.8	18	6.9	22
Business, Finance, and Administration	0.2	2	0.7	1	0.3	3	0	0
Natural and Applied Sciences and Related	0	0	0	0	0	0	0	0
Art, Culture, Recreation, and Sport	0	0	0	0	0	0	0	0
Health	-	-	-	-	-	-	-	-
Social Science, Education, Government Service, and Religion	-	-	-	-	-	-	-	-

Note. The column percentages do not sum to 100% as an offender may have obtained multiple vocational certificates in different categories. Categories in which vocational certificates are offered but were not present in the study sample are denoted by a zero while categories in which vocational certificates are not offered are denoted by a “-”.

Appendix F: Matching Profile by Gender and Aboriginal Ancestry

Category of Vocational Certification	Gender				Aboriginal Ancestry			
	Men (<i>N</i> = 765)		Women (<i>N</i> = 69)		Non-Aboriginal (<i>N</i> = 671)		Aboriginal (<i>N</i> = 163)	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Trades, Transport, and Equipment Operators and Related	60.9	466	29.0	20	55.6	373	69.3	113
Sales and Services	9.5	73	40.6	28	13.4	90	6.8	11
Unique to Primary Industry	0.3	2	1.5	1	0.2	1	1.2	2
Unique to Processing, Manufacturing, and Utilities	0.1	1	0	0	0.2	1	0	0
Business, Finance, and Administration	0	0	0	0	0	0	0	0
Natural and Applied Sciences and Related	0	0	0	0	0	0	0	0
Art, Culture, Recreation, and Sport	0	0	0	0	0	0	0	0
Health	-	-	-	-	-	-	-	-
Social Science, Education, Government Service, and Religion	-	-	-	-	-	-	-	-

Note. Categories in which vocational certificates are offered but were not present in the study sample are denoted by a zero while categories in which vocational certificates are not offered are denoted by a “-”.

Appendix G: Types of Trades Vocational Certificates Obtained by Offenders with a Match in the Trades Area

Vocational Certificate	%	<i>n</i>
V69: Forklift Certification	48.4	235
V17: Construction Safety	38.5	187
V68: Work Safely with Power Tools	18.5	90
V118: Construction Techniques	10.1	49
V71: Traffic Control Person	9.7	47
V13: Welding Program	9.1	44
V09: Forklift Operator Propane Training	7.4	36
V94: Construction Framing	4.3	21
V147: Brickwork-Masonry	3.7	18
V65: Traffic Control Awareness	2.1	10
V113: Housing Quality Initiative	2.3	11
V143: Skid Steer Operator	2.1	10
V57: Welding I	1.4	7
V154: Drywall Installation	1.0	5
V155: Overhead Crane	0.6	3
V54: Drywall Installation	0.6	3
V43: Assistant Cabinet Maker	0.4	2
V53: Auto Painter	0.2	1
V83: Elt Electrical	0.2	1
V16: Carpentry I	0.2	1
V104: Rebar Pre-Apprentice	0.2	1
V106: Autobody Shop	0.2	1
V150: Welding Fundamentals	0.2	1
V158: Outdoor Power Equipment Program/Small Engine Repair	0.2	1

Note. *N* = 486. The column percentages do not sum to 100% as an offender may have obtained multiple vocational certificates in the Trades area.