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*LIFE AFTER SERVICE STUDIES (LASS) SECONDARY ANALYSIS  
(RELEASE 15)*

## **Military Occupation and Post-Military Employment and Income Outcomes**

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April 8, 2016

*Research Directorate Technical Report*

Canada 

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ISBN:

V32-269/2016E-PDF  
978-0-660-05358-5

Published by:

Veterans Affairs Canada  
161 Grafton Street  
Charlottetown, Prince Edward Island  
C1A 8M9

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*Citation:*

MacLean MB, Campbell L, Poirier A, and Jill Sweet. Military Occupation and Post-Military Employment and Income Outcomes. Research Directorate, Veterans Affairs Canada, Charlottetown. 8 April 2016: p.10.

## Research Question (Request)

What is the relationship between military occupation and post-military employment and income?

## Introduction

Some occupations are unique to the military and therefore members who serve in these occupations could have poor post-military employment and earnings outcomes. Magnum and Ball (1987 and 1989) found that roughly half of Veterans in the United States were able to transfer their military training into civilian work. Military members are assigned to an occupational specialty. Some of these occupations such as infantry and artillery which are part of the combat arms do not have a civilian equivalent and some such as nurse and cook are highly transferable. Combat exposure can also have long-lasting effects on health and as a result labour market outcomes (Maclean and Elder, 2007).

In Canada, the Survey on Transition to Civilian Life (STCL) (2010) found many overall positive findings in employment and income. Most Veterans worked after release<sup>1</sup> and were satisfied with their civilian employment and their financial situation. As well, rates of low income among Veteran households were half that of the general population. However, sub-groups of the population have been found to be at risk of poor employment and income outcomes after release.

Rates of unemployment and/or low income have been found to be higher among Veterans released involuntarily, at lower ranks and those with fewer years of service (MacLean, Sweet and Poirier, 2011). In addition, the prevalence of disability among Veterans was twice that of the general population and impacted heavily on labour force participation. Half of Veterans in the labour market and three-quarters of those not in the labour force had participation and activity limitations (Thompson et al, 2013). To date, however, no studies have examined how serving in occupations unique to the military impacts post-service employment and income.

## Method

More than 100 military occupations were reported among the 3,154 respondents to the STCL. Each of these occupations was categorized into either occupations unique to the military (unique occupation) or occupations comparable to those in the civilian world (civilian comparable). This categorization was based on the matching of Military Occupation Codes (MOCs) to National Occupation Codes (NOCs)<sup>2</sup> done at the Department of National Defence [Director Human Rights and Diversity (DHRD)] for the purposes of employment equity. The matching was last updated in February 2012. For ease of analysis, these occupations were grouped into eight categories: 1. combat arms; 2. communications; 3. maritime; 4. aviation; 5. administration etc.; 6.

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<sup>1</sup> The majority (74%) of the population were employed at the time of the survey. The remainder were either not in the labour force (18%), unemployed (6%) or unable to work (3%).

<sup>2</sup> These codes are regulated by the Labour Program at Employment and Social Development Canada. Statistics Canada also uses the NOC to classify the labour force in the Canadian Census / National Household Survey.

engineering/technical; 7. medical; and 8. general officer specialist (see Appendix A for details).

Several employment and income indicators were examined by type of occupation (unique to the military/civilian comparable) and rank. Due to small sample sizes, junior, senior and subordinate officers were grouped into officers accounting for 21% of the population and privates and recruits were grouped into privates/recruits also accounting for 21% of the population. The remainder of the population were senior non-commissioned members (NCMs) (28%) and junior NCMs (30%). Rank was chosen for analysis of unique and comparable occupations as it is correlated with years of service and age at release both of which have been found to be related to post-release employment and income. Rank is also an indicator of education level as officers are required to have a university degree.

Employment indicators included:

- unemployed (not employed and looking for a job);
- unable to work (reported being permanently unable to work);
- job dissatisfaction (dissatisfied or very dissatisfied with job or main activity); and
- military experience mismatch (among those employed, disagree or strongly disagree that their military experience helped them in their civilian career).

Income indicators included:

- low income (Low Income Measure); and
- dissatisfaction with financial situation (dissatisfied or very dissatisfied).

## **Results**

More than one-quarter (26%) of the Veteran population were in combat arms occupations at release. The administration group was the next largest representing 22% of the population followed by aviation at 16%. Together these three groups accounted for 64% of the population. The majority of Regular Force members (66%) served in occupations for which there is a comparable civilian occupation. The remaining 34% were in occupations unique to the military. Combat arms accounted for more than three-quarters (76%) of those who were in occupations unique to the military. The combat arms group includes occupations such as infantry; artillery and combat engineer, all of which were unique to the military (see Appendix A for details).

**Table 1: Population of Veterans by Occupation Group at Release**

Occupation Group (At Release)	Occupation Type		Total (100%)
	Unique Occupation (34.3%)	Civilian Comparable (65.7%)	
Combat Arms	76.1 (72.9, 79.1)	0.0	26.1 (24.3, 28.1)
Communications	10.4 (8.4, 12.8)	3.5 (2.6, 4.5)	5.8 (4.9, 6.9)
Maritime	6.7 (5.1, 8.8)	13.3 (11.6, 15.2)	11.0 (9.8, 12.5)
Aviation	1.0 (0.5, 2.0)	24.4 (22.3, 26.6)	16.4 (14.9, 18.0)
Administration etc.*	4.2 (2.9, 6.1)	30.9 (28.7, 33.2)	21.7 (20.1, 23.4)
Engineering/Technical	1.5 (1.0, 2.5)	16.3 (14.6, 18.2)	11.3 (10.1, 12.6)
Medical	0.0	8.4 (7.1, 9.9)	5.5 (4.7, 6.5)
General Officer Specialist	0.0	3.2 (2.5, 4.2)	2.1 (1.6, 2.7)
Total	100%	100%	100%

\* Includes logistics, security, intelligence or emergency services.

A minority of the population had poor employment and income outcomes: 6% were unemployed, 3% were unable to work, 12% were dissatisfied with their job, 18% had a military experience mismatch, 7% were low income and 15% were dissatisfied with their financial situation. Among those in unique occupations, the rate of reporting a military experience mismatch was significantly higher than for the total population (25% vs. 18%).

Among those in unique occupations, privates/recruits and junior NCMs were particularly at risk of a few poor outcomes. Compared to the total population, privates/recruits in unique occupations had higher rates of unemployment (11% vs. 6%), higher rates of military experience mismatch (31% vs. 18%), low income (14% vs. 7%) and dissatisfaction with financial situation (25% vs. 15%). Junior NCMs in unique occupations had higher rates than the total population of reporting being unable to work (7% vs. 3%), military experience mismatch (28% vs. 18%), low income (12% vs. 7%) and dissatisfaction with financial situation (22% vs. 15%).

Regardless of occupation type, privates/recruits and junior NCMs were at higher risk of various poor outcomes. Compared to the total population, privates/recruits in both unique and comparable occupations had higher rates of low income (14% and 16% vs. 7%), military experience mismatch (31% for both vs. 18%) and dissatisfaction with financial situation (25% and 24% vs. 15%). Junior NCMs in both unique and comparable occupations had higher rates of job dissatisfaction (23% and 16% vs. 12%).

Senior NCMs and officers in comparable occupations were at low risk of some poor outcomes. Compared to the total, both senior NCMs and officers in comparable occupations had lower rates of military experience mismatch (9% for both vs. 18%) and job dissatisfaction (8% and 6% vs. 12%). Senior NCMs in comparable occupations also had lower rates of dissatisfaction with financial situation (9% vs. 15%) and officers had lower rates of unemployment (3% vs. 6%).

Regardless of occupation type, senior NCMs were at lower risk of low income and officers were at lower risk of dissatisfaction with financial situation. Compared to the total population, senior NCMs in both unique and comparable occupations had lower

rates of low income (1% for both occupation types vs. 7%). Officers in both unique and comparable occupations had lower rates of dissatisfaction with financial situation (7% and 4% vs. 15%).

**Table 2: Proportion<sup>+</sup> of Veterans Released in Unique to Military and Civilian Comparable Occupations by Employment Indicator**

Indicator	Occupation Type		Total % (95% CI)
	Unique Occupation % (95% CI)	Civilian Comparable % (95% CI)	
Unemployed	7.4 (5.6, 9.7)	5.4 (4.4, 6.7)	6.1% (5.2, 7.1)
Officer	X	2.7 (1.4, 5.0)£	-
Senior NCM	X	3.3 (2.2, 5.2)	-
Junior NCM	7.2 (4.4, 11.7)	7.5 (5.6, 10.0)	-
Private/Recruit	11.1 (7.5, 16.2)*	11.0 (6.3, 18.3)	-
Permanently Unable to Work	2.7 (2.0, 3.8)	2.4 (1.9, 3.0)	2.5% (2.1, 3.0)
Officer	X	x	-
Senior NCM	x	2.1 (1.3, 3.4)	-
Junior NCM	7.1 (4.9, 10.2)*	3.8 (2.9, 5.1)	-
Private/Recruit	X	x	-
Job Dissatisfaction	14.1 (11.9, 16.9)	11.1 (9.8, 12.7)	12.1% (11.0, 13.5)
Officer	8.7 (4.7, 15.6)	5.9 (3.9, 8.9)£	-
Senior NCM	13.0 (9.2, 18.2)	8.2 (6.5, 10.5)£	-
Junior NCM	22.6 (17.7, 28.3)*	16.2 (13.7, 19.2)*	-
Private/Recruit	12.2 (8.4, 17.2)	14.3 (9.0, 21.9)	-
Military Experience Mismatch	24.8 (21.6, 28.4)*	14.6 (12.8, 16.7)	18.2% (16.6, 20.1)
Officer	13.1 (7.6, 21.8)	8.7 (5.8, 12.9)£	-
Senior NCM	18.7 (13.6, 25.1)	8.5 (6.4, 11.3)£	-
Junior NCM	27.5 (21.6, 34.3)*	18.6 (15.6, 22.2)	-
Private/Recruit	30.9 (25.0, 37.5)*	31.3 (23.1, 40.8)*	-
Low Income	8.8 (6.7, 11.3)	5.3 (4.2, 6.6)	6.5 (5.4, 7.6)
Officer	x	x	-
Senior NCM	0.8 (0.2, 3.1)£	1.2 (0.6, 2.5)£	-
Junior NCM	11.6 (7.9, 16.7)*	7.0 (5.2, 9.3)	-
Private/Recruit	14.1 (9.9, 19.8)*	16.2 (10.3, 24.4)*	-
Dissatisfaction with Financial Situation	18.5 (15.8, 21.5)	12.9 (11.4, 14.6)	14.8 (13.5, 16.4)
Officer	6.6 (3.4, 12.7)£	4.2 (2.5, 6.9)£	-
Senior NCM	11.3 (7.7, 16.4)	9.2 (7.3, 11.7)£	-
Junior NCM	21.9 (17.1, 27.6)*	18.9 (16.1, 22.2)	-
Private/Recruit	25.0 (19.7, 31.2)*	24.0 (16.9, 32.9)*	-

+ Based on weighted population estimates.

x sample size of less than 10.

\* Significantly greater than the total at 95% confidence interval.

£ Significantly less than the total at 95% confidence interval.

## Discussion

This study found that while serving in a unique occupation influenced employment and income outcomes, rank was also important in determining employment and income outcomes post release. Privates/recruits in unique occupations were worse off for unemployment while privates/recruits in both unique and comparable occupation were worse off for military experience mismatch, low income and dissatisfaction with financial situation than other ranks. This suggests difficulties entering the civilian labour market and lower earnings in the civilian labour market compared to the

military. This group may need to be better prepared to enter the civilian labour market including having realistic earnings expectations. These findings may suggest opportunities for retention of this group in the military given the difficulties many face in the civilian labour market.

The higher rate of junior NCMs in unique occupations reporting being unable to work is consistent with Thompson *et al* (2013). Thompson *et al* found that among the various ranks, junior NCMs had the highest prevalence of disability. Junior NCMs in both unique and comparable occupations also had higher rates of job dissatisfaction and military experience mismatch, which could be related to difficulties adapting to disability. For example, some may have enjoyed the physical nature of their work in the military (most in unique occupations were in the combat arms) and due to their limitations can no longer perform this type of work, causing dissatisfaction with their civilian work. However, little is known about what factors are related to satisfaction with civilian work and therefore further study is needed.

Privates/recruits in both unique and comparable occupations and junior NCMs in unique occupations had higher rates of disagreement that their military experience helped them in their civilian career. These findings may suggest that many do not fully realize what skills are transferable. While some occupations are unique to the military, many of the skills are not unique. Helping both Veterans and employers recognize the skills that are transferable to civilian occupations may improve employment and income outcomes.

This study has some limitations. Due to the cross-sectional nature of the survey, causality cannot be established. Sample sizes were too small for analysis in many cases, particularly when employment and income indicators were broken down by rank. The study was descriptive and therefore the strength of association between occupation, rank and employment and income indicators is unknown. Further research is needed into what industries military skills and knowledge, particularly among those in unique occupations, have transferred well into civilian occupations.

## **Conclusion**

Most Veterans had served in occupations comparable to those found in the civilian labour market. However, more than one-third of Veterans were in occupations that are unique to the military, the majority of whom were in the combat arms. Veterans in unique occupations were worse off compared to the overall population for military experience mismatch. Particularly at risk among those in unique occupations were privates/recruits (unemployment) and junior NCMs (unable to work, military experience mismatch, low income and dissatisfaction with financial situation).

Rank, however, also plays a role in employment and income outcomes. Regardless of occupation type, privates or recruits were worse off for military experience mismatch, low income and dissatisfaction with financial situation while junior NCMs were worse off for job dissatisfaction.

These findings suggest the need for three types of strategies: 1) a strategy aimed at younger Veterans who often have more difficulty entering the civilian labour market; 2)

a strategy designed for those experiencing difficulties related to disability; and 3) a strategy to assist those dissatisfied with their civilian employment. An overall strategy aimed at informing both Veterans and employers of how skills related to military service translate to the civilian labour market could also positively impact employment and income outcomes, especially for those in occupations unique to the military.

### **Requestor(s)/Acknowledgement**

The authors would like to thank Janice Ployer and Jovette Bouchard-Doucet of VAC's Employment Secretariat, as well our partners at DND, Drs. Sanela Dursun, Kerry Sudom and Justin Wright from the Director General Military Personnel Research and Analysis (DGMPRA) for their comments and suggestions and Wendy Lockhart, Research Directorate for her edits to the paper.

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## Appendix A: Military Occupation to National Occupation Codes (NOCs) – Regular Force

Military Occupation Group	Military Occupation	Military		Comparable NOC	
		MOC*	MOSID**		
1. Combat arms					
Officers	Armour	21	178	Unique	
	Artillery	22	179	Unique	
	Infantry	23	180	Unique	
	Engineer	24	181	Unique	
NCMs	Crewman	011	5	Unique	
	Artilleryman – Field	021	8	Unique	
	Artilleryman - Air Defence	022	9	Unique	
	Infantryman	031	10	Unique	
	Combat Engineer	043	339	Unique	
2. Communications					
Officers	Communications and Electronics Engineering (Air)	83	340	2133	
	Signals	84	341	2133	
NCMs	Lineman	052	15	7245	
	Aerospace Telecommunications and Information Systems Technician	226	109	2241	
	Land Communications and Information Systems Technician	227	110	2241	
	Communicator Research	291	120	1475	
	Signal Operator	215	329	6464	
3. Maritime					
Officers	Maritime Surface and Subsurface	71	207	2273	
	Naval Combat Systems Engineering	87	344	Unique	
	Marine Systems Engineering	88	345	2148	
	Naval Engineering	89	346	2148	
NCMs	Boatswain	181	105	7433	
	Sonar Operator	278	324	2274	
	Naval Combat Information Operator	275	114	Unique	
	Naval Electronic Sensor Operator	276	115	Unique	
	Naval Communicator	277	299	1475	
	Marine Engineering Systems Operator	315	225	2274	
	Naval Electronics Technician (Acoustics)	283	116	2241	
	Naval Electronics Technician (Communications)	284	117	2241	
	Naval Electronics Technician (Tactical)	285	118	2241	
	Naval Electronics Technician (Manager)	286	119	2241	
	Naval Weapons Technician	065	17	Unique	
	Marine Engineering Mechanic	312	121	7434	
	Marine Engineering Technician	313	122	7434	
	Marine Engineering Artificer	314	123	7434	
		Hull Technician	321	124	7263
		Marine Electrician	332	126	7242
4. Aviation					
Officers	Air Navigator	31	182	2271	
	Pilot	32	183	2271	
	Aerospace Control	39	184	2272	
	Flight Engineer	65	202	2271	
	Aerospace Engineering	41	185	2146	
	Meteorologist	73	209	2213	
NCMs	Airborne Electronic Sensor Operator	081	19	Unique	

Military Occupation Group	Military Occupation	Military		Comparable NOC
		MOC*	MOSID**	
	Flight Engineer	091	21	2271
	Aerospace Control Operator – Aerospace Operator	169	337	2272
	Search and Rescue Technician	131	101	3234
	Meteorological Technician	121	100	2213
	Aviation Systems Technician	514	135	7315
	Avionics Systems Technician	526	136	7315
	Imagery Technician	541	137	5221
<b>5. Administration etc.</b>				
Officers	General Officer	11	172	0012
	Military Police Officer	81	214	0641
	Officer Cadet	98	240	Unique
	Logistics	78	328	0114
	Intelligence	82	213	Unique
NCMs	Intelligence Operator	111	99	Unique
	Firefighter	651	149	6262
	Military Police	811	161	6261
	Steward	862	165	0631
	Resource Management Support Clerk	836	298	1411
	Cook	861	164	6242
	Supply Technician	911	168	1474
	Ammunition Technician	921	169	1472
	Traffic Technician	933	170	7437
	Mobile Support Equipment Operator	935	171	7411
<b>6. Engineering/technical</b>				
Officers				
	Electrical and Mechanical Engineering	43	187	2133
	Construction Engineering	46	189	2132
NCMs	Electrical Technician	331	125	7242
	Fire Fighter	651		
	Geomatics Technician	142	238	2255
	Refrigeration and Mechanical Technician	641	301	7313
	Electrical Distribution Technician	642	302	7244
	Electrical Generating Systems Technician	643	303	7351
	Plumbing and Heating Technician	646	304	7252
	Water, Fuel and Environmental Technician	647	305	7442
	Construction Technician	648	306	7611
	Construction Engineer Superintendent	649	307	2231
	Vehicle Technician	411	129	7321
	Weapons Technician (Land)	421	130	Unique
	Fire Control Systems Technician	434	327	7245
	Materials Technician	441	134	7263
	Aircraft Structures Technician	565	138	7315
	Non-destructive Testing Technician	532	343	2261
<b>7. Medical</b>				
Officers	Dental Officer	51	191	3113
	Health Care Administration	48	192	4165
	Health Service Operations	52	193	3219
	Pharmacy	54	194	3131
	Nursing	57	195	3152
	Medical	55	196	3219
	Medical Associate	56	197	3219
NCMs	Operating Room Assistant	713	334	3219
	Medical Laboratory Technologist	714	152	3212
	Biomedical Electronics Technologist	718	155	2241

Military Occupation Group	Military Occupation	Military		Comparable NOC
		MOC*	MOSID**	
	Dental Technician-Hygienist	725	335	3222
<b>8. General Officer Specialist</b>				
Officers	Social Work	58	198	4152
	Chaplain (Protestant)	61	200	4154
	Chaplain (Roman Catholic)	62	201	4154
	Champlain	-	349	4154
	Public Affairs Officer	66	203	5124
	Legal	67	204	4112
	Personnel Selection	72	208	1121
	Music	75	210	5133
	Training Development	74	211	4131
NCMs	Musician	871	166	5133
	Postal Clerk	881	167	1461
	Court Reporter	833	322	1244
	Canadian Forces Chief Warrant Officer	-	351	-

Source: Department of National Defence [Director Human Rights and Diversity (DHRD)], February 2012

Includes only those occupations reported in the Survey on Transition to Civilian Life.

\* Military Occupation Code

\*\* Military Occupation Structure Identification (MOS ID).