

# Looking at Recruiting and Selection for the Canadian Military Colleges through the Lens of Gender-based Analysis Plus

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The Canadian Armed Forces (CAF) have made significant advancements in achieving greater gender diversity since the Canadian Human Rights Tribunal 1989 decision that directed the Forces to open all occupations to women. Today, Canadian women have the opportunity to serve in any of the CAF military occupations, including in combat roles. In reality, the majority of women in the CAF are clustered in six occupations related to support, supply, logistics and health care.<sup>1</sup> At the same time, the representation rate of women in the Regular Forces remains low, averaging 14.5% from 2013-14 to 2015-16; additionally, the CAF has consistently fallen short of its Employment Equity (EE) goals with respect to women. The representation of women is marginally higher in the Canadian Military Colleges (CMC) where individuals recruited through the Regular Officer Training Plan (ROTP) complete a baccalaureate degree before being commissioned as officers in the CAF. Between 2006 and 2016, the representation of female Officer Cadets averaged 19.7% at the Royal Military College of Canada (RMC) and 15.1% at the Royal Military College Saint-Jean (RMC St-Jean). In recent years, there appears to be a drop in the percentage of women recruited in the CMCs through the ROTP but the reasons for this gap have not been fully assessed. Hence, a study was initiated to investigate whether there is a systemic bias affecting women in the ROTP recruitment and selection process focusing on those destined to the CMCs, and to examine potential barriers to women's success in the ROTP.

This article illustrates the initial steps of the larger study. Specifically, this paper presents: some background on the military colleges and the ROTP ; an overview of the main themes that emerged from consultations with stakeholders; results of the secondary data analysis, focusing on gender trends in preferred occupation, preferred programme, and enrolment; and, a brief comparison between CMCs and civilian institutions. The discussion that ensues is done in light of some new initiatives aiming to increase the number of women in the ROTP and the CAF overall.

## Objectives and Methodology

The aim of the gender-based assessment study is to examine the gender-neutral nature of the recruiting process (e.g., online application, selection tests, interactions with recruiters, recruitment experience) and to investigate the experience of Officer Cadets

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<sup>1</sup> About 50% of women are clustered in six occupations, namely: resource management support clerks; supply technicians; logistics officers; medical technicians; nursing officers; and cooks. See: Office of the Auditor General of Canada, 2016.

recruited in the CMCs (support/ resources, academic and social experience). These objectives were achieved by utilizing a range of research methodologies encompassing the qualitative and quantitative approaches below.

- Between June and September 2016, informal consultations were conducted with stakeholders in various organizations to gain an understanding of the ROTP process and potential issues, identify areas to investigate, and ascertain available secondary data.
- Through a review of gender-based assessment and analysis frameworks, the Gender-based Analysis Plus (GBA+) was selected as the most appropriate framework to guide the research design and analysis for the study.<sup>2</sup>
- Data spanning multiple years was obtained from the Canadian Forces Recruiting Group (CFRG), RMC and RMC St-Jean. Secondary data analyses were conducted to examine gender trends among ROTP applicants and recruits in terms of occupations, programmes, academic performance, and attrition.
- In subsequent steps of our study, not presented here, two surveys were developed: one for ROTP applicants and one for recruits attending RMC, RMC St-Jean or civilian universities, to gather information on individuals' experiences in applying to join the CAF through the ROTP as well as their experiences at a military college or a civilian university. Follow-up interviews were conducted to explore in detail individual experiences.

The research design, analyses and reviews were done in line with the GBA+ framework adopted by the Government of Canada.<sup>3</sup> Specifically, the GBA+ framework was used to analyze how an issue may affect men and women in different ways. Consistent with the GBA+ guidelines, other intersecting identity factors (such as ethnicity, language, age and education) were considered in our analyses, whenever possible.

## **Background on the Canadian Military Colleges and the ROTP**

The RMC was established in 1874 to provide “*a complete education in all branches of military tactics, fortification, engineering, and general scientific knowledge in subjects connected with and necessary to thorough knowledge of the military profession*”.<sup>4</sup> Since the acceptance of the first class of eighteen cadets (the “Old Eighteen”) in 1876, the RMC has diversified its programmes of study. The 1959 *Royal Military College of Canada Degrees Act* by the Ontario Legislature empowered the College to confer degrees in Arts, Science, and Engineering. RMC now offers 19 four-year Baccalaureate degrees in Arts, Science, and Engineering.

The RMC St-Jean, formerly Collège Militaire Royal de Saint-Jean, was opened in 1952 to deliver education in French to Officer Cadets. Although it began to award bachelor degrees from the Université de Sherbrooke through an agreement in 1971, the Collège was

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<sup>2</sup> Status of Women Canada, Gender-based Assessment Plus, 2016.

<sup>3</sup> *Ibid.*

<sup>4</sup> Government of Canada, “About the Royal Military College of Canada”, 2016.

granted the authority to confer university-level diplomas in 1985. Following a closure period between 1995 and 2008, RMC St-Jean now provides college-level and first-year university programmes in the Physical and Social Sciences, for Officer Cadets intending to transfer to the RMC to complete their degree.<sup>5</sup> The current liberal government recently announced they will “*return the Royal Military College in Saint-Jean to full university status*” to support “*Canada’s bilingual heritage and for Francophones to have the opportunity to obtain an education in a French-speaking environment*”.<sup>6</sup>

The ROTP is the most common entry plan for young Canadians to obtain both an Officer’s commission in the CAF and an undergraduate degree, whereby successful candidates are enrolled in the CAF (Regular Force) and receive full subsidization at RMC, RMC St-Jean or at an approved Canadian civilian university.<sup>7</sup> Obligatory service as a commissioned officer in the Regular Force is required upon graduation.

Under the ROTP, individuals are recruited in the CAF in a military occupation and begin their career by completing an undergraduate university programme at the RMC, or at a Canadian civilian university of their choice. Applicants can select three preferred occupations and three preferred programmes and there needs to be a match between occupations and programmes. The RMC offers compatible degrees for 20 military occupations.<sup>8</sup> Candidates selected for health care or other occupations (i.e., public affairs, social work, and training development) are required to attend a Canadian civilian university and it is their responsibility to gain admission to the universities they prefer.

## Consultations

A total of 18 informal consultations were conducted with 28 stakeholders in various organizations, including RMC, RMC St-Jean, CFRG, Military Personnel Generation (MPG), Director General Human Rights and Diversity (DHRD), and Director Personnel Generation Requirements (DPGR). Text analysis of the consultations led to the identification of ten themes that were highlighted by more than one participant. The six prevalent themes identified are listed below starting with the most reoccurring themes: Occupations; Marketing; Recruiting; Early offer; Canadian Forces Aptitude Test (CFAT); and Attrition.

The consultations highlighted some challenges regarding military occupations in the ROTP process, including what occupations are available versus applicants’ preferred occupation. The available occupations and target numbers for each occupation are decided at the CAF level and reflected in the Strategic Intake Plan (SIP). In turn, the Regular Force occupations are filled through two types of entry plans: direct entry or paid education plans, ROTP being one of the latter. Occupations are divided in eight occupational groups (see p.6). The challenge for female applicants is that many available occupations are non-traditional jobs for women. As mentioned by one participant: “*Only about 10% of the*

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<sup>5</sup> Government of Canada, “FAQ”, *Royal Military College Saint-Jean*, 2017.

<sup>6</sup> Smith, 2017.

<sup>7</sup> Government of Canada, “Regular Officer Training Plan (ROTP)”, 2017.

<sup>8</sup> Government of Canada, “Programmes and Occupation Compatibility”, 2017.

*eligible jobs through ROTP are in the support group where most of the women are applying and also there are many men who apply for those support occupations. So the only solutions are to increase the number of support occupations or you could use EE and offer the support occupations positions to women first*". Another challenge is that some occupations which resonate more with women are not supported by the RMC as those degrees are not offered, e.g., nursing, physiotherapy and pharmacy. Suggestions included offering a nursing programme ; assigning occupations at the end of 1<sup>st</sup> year, which was a recommendation of the Wither's report<sup>9</sup> ; or assigning occupations in the senior year based on merit, following the model of the United States Military Academy at West-Point. Several individuals consulted believe that there is no systemic bias in ROTP selection, and rather, *"it is more about the available jobs and what people select"*.

Regarding marketing, the participants said that strategic communication and marketing in Defence falls within the responsibility of Assistant Deputy Minister (Public Affairs). Participants mentioned that ROTP recruiting materials are gender-neutral while the content of general CAF advertising is often *"kinetic, combat oriented, [and] is not friendly to women's employment"*. Another issue is that *"when selling RMC as a good academic institution, [recruiters] are also selling an employment brand"*. CFRG and the CMCs are involved in attraction activities such as influencers' activities (e.g., inviting teachers, counsellors or aboriginal chiefs on a ship to educate and inform them about the CAF), social media and high school visits; however, there are personnel and resources reductions and the challenge that RMC does not have the authority to proactively contact and recruit individuals, except in the case of varsity athletes.

Some individuals consulted acknowledged that most recruiters are males; therefore, a better gender representation among recruiters could attract more female applicants. Further suggestions included having recruiters who are more familiar with the CMCs to better address specific applicants' questions about life at the colleges, and assigning role models to female applicants to provide advice during the recruiting process. It was also mentioned that some allies have different systems, such as the United States where recruiting is an occupation and recruiters have quota systems to meet and non-citizens with a green card can be recruited. In the CAF, however, *"we have to hire Canadian citizens first, but if there are still vacancies in some occupations we are allowed to bring in a landed immigrant but the hold-up is the security, mostly the criminal record check and if they haven't been in Canada for long enough time"*.

Several stakeholders mentioned a new initiative introduced in 2016-17 involving sending *"early offers"* to select candidates who met initial requirements and academic standards, to pre-empt offers from civilian universities. Opinions differed over the objectives and outcomes of this initiative. For some, it *"didn't produce more candidates than in the past"* and it was *"not a gender motivation"*. Others, however, said there were two objectives: *"the first to have 80% of the SIP filled by January and the second to recruit 25% women in the military colleges"*.

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<sup>9</sup> Wither's Study Group, 2003.

The consultations touched on the topic of the CFAT which is a standardized cognitive ability test composed of multiple items that measure verbal skills, spatial ability and problem-solving ability used to determine eligibility for the CAF and military occupations.<sup>10</sup> The issue that overall, men perform slightly better than women on the CFAT was discussed. However, research shows that this slight gender difference in CFAT scores was not found to cause adverse impact as men and women have an equal chance of being selected in the CAF. The conclusion of the study was that *“the number of female candidates joining the CAF is low because of factors other than gender bias. The problem of the smaller number of female CAF candidates seems to lie with attracting and recruiting female applicants, not with the current selection tools”*.<sup>11</sup>

The consultations revealed that attrition rates should be explored in terms of whether there are differences between males and females. The research team analyzed secondary data on academic performance at RMC, which revealed that female recruits are, overall, doing better than their male counterparts, based on a higher percentage of females who successfully passed academic requirements, and a lower percentage of females required to withdraw from their programme due to academic failure. At the same time, the analysis of RMC St-Jean release data shows only slight gender differences; namely, a higher percentage of females released voluntarily from RMC St-Jean than males, while a higher percentage of males released for academic or military reasons than females.

Although the topic of civilian universities was not a recurring ‘theme’, there was mention of a broader range of programme offerings in civilian institutions compared with the CMCs and the competition to *“increase the number of women in STEM [Science, Technology, Engineering, Mathematics] fields”*, which will be explored later in this article.

## **Gender Distribution of ROTP Applicants and Recruits**

Gender distribution of ROTP applicants and recruits from 2006 to 2016 was examined using data from the RMC Registrar’s Office.<sup>12</sup> For the purpose of our study, ROTP applicants are defined as individuals who meet basic eligibility for the ROTP to attend a CMC but have not yet been selected; recruits are defined as individuals who have gone through the recruiting process and have successfully been selected/recruited into one of the CMCs.

Figure 1 shows a slight decrease in the proportion of females in the applicant and recruit populations over the years. From 2006 to 2016, females constituted, on average, 23.8% of the applicants. During the same period, females constituted, on average, only 17.7% of the recruits.<sup>13</sup> Further, the percentage of female recruits has been below 20% since 2011, accounting for 12.4% of the total recruit population in 2013. In comparison,

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<sup>10</sup> Government of Canada, DAOD 5002-5, 2011.

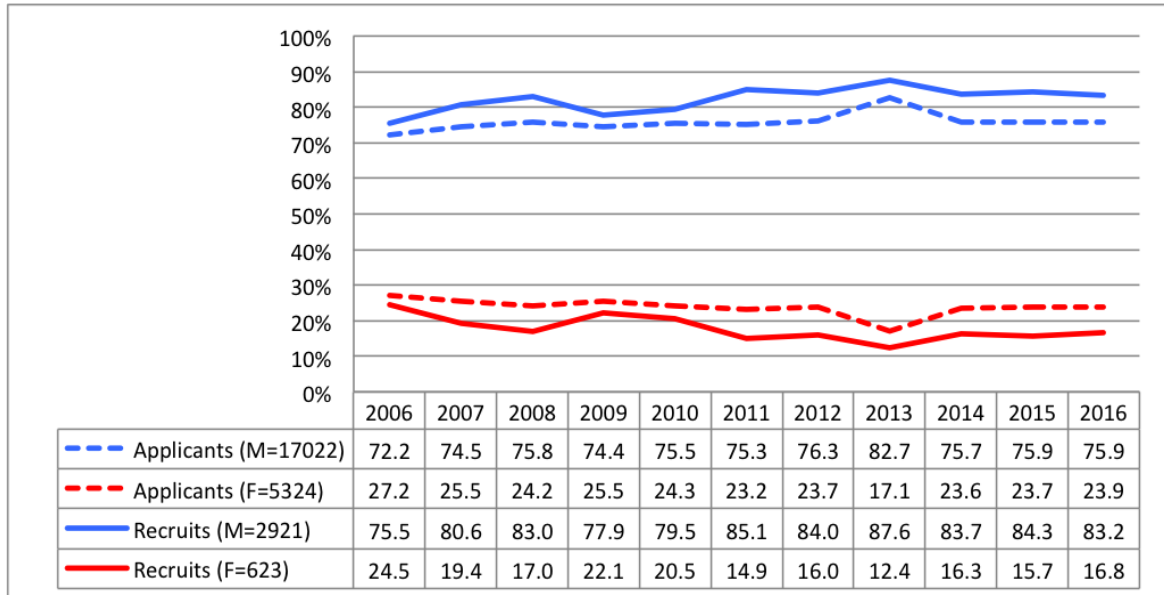
<sup>11</sup> National Defence, 2014.

<sup>12</sup> Due to some missing data, the analysis by occupation and by programme does not include the year 2006.

<sup>13</sup> In RMC, the percentage of female recruits was, on average, 19.7%, whereas in RMC Saint-Jean, females accounted for 14.9% of the recruit population.

males constituted, on average, 75.8% of the applicants and 82.2% of the recruits. The key finding is that the proportion of female ROTP applicants is higher than the proportion of females that enrolled in the CMCS. Thus, more females drop off from the recruiting process for admission to the CMCS.

**Figure 1 :** Percentage of ROTP applicants and recruits from 2006 to 2016 by gender



### Gender Trends in Preferred Military Occupations and Occupations Offered

This section presents gender trends in preferred military occupations and actual occupations offered according to the following eight occupational groups or Military Occupations Structure Identification Description (MOSID):

1. Land operations: Armour, Artillery, Infantry ;
2. Sea operations: Maritime Surface and Sub-surface ;
3. Air operations: Air Combat Systems, Pilot, Aerospace Control ;
4. Land engineering: Engineering, Electrical and Mechanical Engineering ;
5. Sea engineering: Marine Systems Engineering, Naval Combat Systems Engineering ;
6. Air engineering: Aerospace Engineering, Construction engineering ;
7. Communication engineering: Communications and Electronic Engineering, Signals ;
8. Support: Health Care Administration, Military Police, Intelligence, Logistics, Personnel Selection.<sup>14</sup>

We compared the proportion of female applicants who were placed in CMCS pre-suitability selection stage and chose a particular MOSID group as their first preference to the proportion of female recruits who were assigned to the same MOSID group. The same comparison was conducted for male applicants and recruits.

<sup>14</sup> It should be noted that there are an additional 11 military occupations for which RMC does not offer an acceptable degree, including : dental, legal, medical, nursing, pharmacy, physiotherapy, and social work.

**Table 1 : Gender Trends in Preferred Military Occupations and Occupations Offered (2007-2016) (Operations)**

Years	Gender	Support Occupations		Land Operations		Sea Operations		Air Operations	
		Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)
2007	M	50 (7.2)	17 (7.7)	140 (20.3)	59 (26.6)	36 (5.2)	20 (9.0)	296 (42.8)	45 (20.3)
	F	35 (21.0)	16 (31.4)	13 (7.8)	5 (9.8)	7 (4.2)	10 (19.6)	87 (52.1)	9 (17.6)
2008	M	102 (11.2)	25 (9.8)	200 (22.0)	74 (28.9)	24 (2.6)	26 (10.2)	411 (45.2)	53 (20.7)
	F	72 (36.0)	28 (49.1)	16 (8.0)	5 (8.8)	12 (6.0)	7 (12.3)	79 (39.5)	5 (8.8)
2009	M	69 (12.3)	13 (6.8)	109 (19.5)	58 (30.4)	22 (3.9)	11 (5.8)	227 (40.5)	42 (22.0)
	F	47 (38.5)	23 (39.0)	6 (4.9)	9 (15.3)	9 (7.4)	7 (11.9)	39 (32.0)	6 (10.2)
2010	M	130 (16.3)	16 (7.7)	151 (19.0)	57 (27.3)	38 (4.8)	12 (5.7)	264 (33.2)	41 (19.6)
	F	81 (41.8)	11 (20.4)	11 (5.7)	6 (14.3)	21 (10.8)	8 (14.8)	52 (26.8)	10 (18.5)
2011	M	225 (14.0)	14 (5.6)	315 (19.6)	62 (24.9)	68 (4.2)	29 (11.6)	583 (36.3)	52 (20.9)
	F	171 (47.9)	10 (23.8)	14 (3.9)	6 (14.3)	26 (7.3)	5 (11.9)	87 (24.4)	6 (14.3)
2012	M	145 (10.2)	9 (4.2)	302 (21.3)	45 (21.2)	46 (3.2)	24 (8.8)	493 (34.7)	60 (28.3)
	F	103 (32.2)	12 (27.9)	17 (5.3)	2 (4.7)	26 (8.1)	8 (21.1)	96 (30.0)	4 (14.3)
2013	M	115 (11.7)	17 (6.3)	194 (19.7)	60 (22.1)	37 (3.8)	24 (8.8)	363 (36.9)	58 (21.3)
	F	96 (49.0)	9 (23.7)	10 (5.1)	3 (7.9)	12 (6.1)	8 (21.1)	42 (21.4)	7 (18.4)
2014	M	104 (14.7)	21 (8.0)	95 (13.4)	61 (23.2)	20 (2.8)	15 (5.7)	272 (38.4)	47 (17.9)
	F	104 (49.1)	22 (42.3)	7 (3.3)	4 (7.7)	8 (3.8)	3 (5.8)	50 (23.6)	3 (5.8)
2015	M	111 (13.8)	17 (6.4)	133 (16.5)	80 (30.2)	38 (4.8)	20 (7.5)	317 (39.4)	33 (12.5)
	F	110 (49.3)	18 (35.3)	12 (5.4)	8 (15.7)	21 (10.8)	4 (7.8)	56 (25.1)	4 (7.8)
2016	M	125 (13.5)	29 (10.2)	172 (18.6)	74 (26.0)	19 (2.0)	13 (4.6)	351 (37.9)	43 (15.1)
	F	122 (49.4)	22 (38.6)	13 (5.3)	6 (10.5)	11 (4.4)	8 (14.0)	51 (20.6)	6 (10.5)

### Support Occupations

As shown in Table 1, the percentage of female applicants who selected support occupations as their top choice increased from 21.0% in 2007 to 47.9% in 2011, decreased to 32.2% in 2012 and then stabilized around 49% between 2013 and 2016. The percentage of female recruits who were enrolled in support occupations fluctuated over the last ten years from 20.4% to 49.1% with no specific pattern. On average during the ten-year period, 41.4% of female applicants chose support occupations as their first choice but only 33.2% of females were recruited in this occupational group.

Trends within the male sample were relatively stable over time. On average, 12.5% of male applicants chose support occupations as their first choice but only 7.2% of males were recruited in this occupational group. For both genders, a higher proportion of applicants selected support occupations compared to the proportion of individuals actually recruited in this occupational group. This trend was slightly more accentuated for the female sample.

### **Land Operations**

As also shown in Table 1, trends in applicant and recruit data for land operations were relatively stable over time for both genders. Very few female applicants selected land operations as their first choice, with an average of 5.5% over the ten years. On average, females accounted for 10.6% of land operations recruits.

The average percentage of male applicants who chose land operations as their first preference was 19.0%, which is substantially higher than the percentage of female applicants. On average, males accounted for 26.1% of land operations recruits. For both genders, the percentage of recruits who were assigned land operations was generally higher than the percentage of applicants who selected this occupational group, with the exception of 2012.

### **Sea Operations**

Few applicants in each gender group chose sea operations as their first choice, with an average of 6.0% of female applicants and 3.7% of male applicants through the years (Table 1). However, the percentage of recruits was consistently higher than the applicants for both genders. On average, over the last ten years, 14.1 % of female recruits and 7.7 % of male recruits were assigned to sea operations. This trend is slightly more accentuated for the female sample, especially between 2012 and 2013, where there was an unusual spike in female recruits (approximately 21%).

### **Air Operations**

There has been a decreasing trend in the percentage of female applicants who selected air operations as their top choice from 2007 (52.1%) to 2016 (20.6%) (Table 1). The percentage of female recruits who were assigned to air operations fluctuated over the last ten years from 5.8% to 18.5% with no consistent pattern emerging. On average, during the ten-year period, 29.6% of female applicants chose air operations as their first choice but only 12.1% of female recruits were assigned to this occupational group. Thus, quite a high percentage of female applicants chose air operations but few of them were recruited.

The average percentage of male applicants who selected air operations as their first choice was 38.5%, showing a slight decrease from 42.8% to 33.2% between 2007 and 2009, then stabilizing around 37.0% in the latter years. The percentages of male applicants were consistently higher than female applicants. The percentage of male recruits who were offered air operations was relatively stable: 19.9% on average. Similar to females, there were more male applicants who chose air operations than male recruits who were selected for this occupation.



**Table 2 : Gender Trends in Preferred Military Occupations and Occupations Offered (2007-2016) (Engineering)**

Years	Gender	Land Engineering		Sea Engineering		Air Engineering		Communications Engineering	
		Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)	Applicants n (%)	Recruits n (%)
2007	M	79 (11.4)	36 (16.2)	17 (2.5)	11 (5.0)	75 (7.4)	17 (7.7)	15 (2.2)	17 (7.7)
	F	11 (6.6)	5 (9.8)	4 (2.4)	1 (2.0)	11 (3.5)	3 (5.9)	2 (1.2)	2 (3.9)
2008	M	99 (10.9)	38 (14.8)	13 (1.4)	12 (4.7)	65 (5.5)	16 (6.3)	7 (0.8)	11 (4.3)
	F	5 (2.5)	3 (5.3)	6 (3.0)	4 (7.0)	15 (4.1)	3 (5.3)	0 (0.0)	1 (1.8)
2009	M	77 (13.8)	37 (19.4)	8 (1.4)	13 (6.8)	53 (6.3)	10 (5.2)	7 (1.3)	7 (3.7)
	F	11 (9.0)	5 (8.5)	4 (3.3)	1 (1.7)	10 (3.8)	5 (8.5)	0 (0.0)	3 (5.1)
2010	M	108 (13.6)	39 (18.7)	15 (1.9)	15 (7.2)	90 (7.0)	12 (5.7)	26 (3.3)	17 (8.1)
	F	9 (4.6)	11 (20.4)	2 (1.0)	1 (1.9)	19 (4.5)	4 (7.4)	2 (1.0)	3 (5.6)
2011	M	238 (14.8)	37 (14.9)	45 (2.8)	21 (8.4)	129 (5.1)	16 (7.5)	35 (2.2)	18 (7.2)
	F	28 (7.8)	3 (7.0)	5 (1.4)	4 (9.5)	24 (3.0)	5 (11.9)	2 (0.6)	2 (4.8)
2012	M	258 (18.2)	36 (17.0)	48 (3.4)	6 (2.8)	134 (5.9)	16 (7.5)	35 (2.5)	18 (8.5)
	F	32 (10.0)	3 (5.3)	14 (4.4)	4 (9.3)	29 (4.1)	2 (4.7)	5 (1.6)	7 (16.3)
2013	M	172 (17.5)	53 (19.5)	28 (2.8)	20 (7.4)	73 (6.1)	16 (5.9)	11 (1.1)	24 (8.8)
	F	17 (8.7)	2 (5.3)	5 (2.6)	5 (13.5)	15 (6.3)	3 (7.9)	1 (0.5)	1 (2.6)
2014	M	127 (17.9)	61 (23.2)	13 (1.8)	17 (6.5)	83 (6.2)	20 (7.6)	18 (2.5)	21 (8.0)
	F	22 (10.4)	6 (11.5)	5 (2.4)	7 (13.5)	20 (4.8)	2 (3.8)	1 (0.5)	5 (9.6)
2015	M	118 (14.7)	63 (23.8)	19 (2.4)	12 (4.5)	77 (6.0)	18 (6.8)	12 (1.5)	22 (8.3)
	F	19 (8.5)	4 (7.8)	3 (1.3)	0 (0.0)	18 (4.5)	3 (5.9)	3 (1.3)	7 (13.7)
2016	M	149 (16.1)	65 (22.8)	29 (3.1)	21 (7.4)	94 (5.3)	22 (7.7)	23 (2.5)	18 (6.3)
	F	23 (9.3)	7 (12.3)	7 (2.8)	0 (0.0)	20 (3.7)	2 (3.5)	7 (2.8)	5 (8.8)

### Land Engineering

The percentage of female applicants for land engineering ranged from 2.5% to 10.4% with a mean of 7.7% over the ten years (Table 2). Overall, the percentage of females assigned to land engineering (9.5%) was similar to the percentage of females who selected this occupational group, with the exception of 2010 where 20.4% of female recruits were assigned to land engineering while only 4.6% of them selected this occupational group.

The average percentage of male applicants who chose land engineering as their first preference was consistently higher than the percentage of female applicants. On average, the percentage of male recruits assigned to land engineering was consistently higher than the percentage of male applicants who selected this occupational group as their first choice. The average percentage of male recruits counted for 19.0% in land engineering even though there were only 14.9% of male applicants who chose land engineering as their first preference.

### **Sea Engineering**

Few applicants of either gender chose sea engineering as their preferred occupational group, with an average of 2.5% of female applicants and 2.4% of male applicants through the years (Table 2). The average percentage of female recruits assigned to this occupational group was 6.0%, while the average percentage of male recruits was 6.1%. In both gender categories, the percentage of recruits was higher than the percentage of applicants. This trend is slightly more accentuated for males in 2009, 2010, 2013 and 2014 and for females between 2012 and 2014. The gap between preferred occupation and assigned occupation for sea engineering is therefore not linked to a specific gender. Of note, no females were recruited in this occupational group in 2015 and 2016.

### **Air Engineering**

The proportion of applicants in both genders who selected air engineering varied little over the past 10 years; hovering around 6.4% for females and 7.2% for males (Table 2). There has been little change in the percentage of male recruits assigned to air engineering over the last decade. While there have been some minor variations in percentage of female recruits assigned to air engineering, no consistent pattern has emerged. Further, caution in the interpretation of these variations is advised due to the small sample of female recruits ( $n = 32$ ). On average, 6.5% of females were recruited in air engineering, and 6.7% of males. For both genders, the percentage of applicants who selected air engineering as their first choice was similar to the percentage of recruits assigned to this occupational group.

### **Communication Engineering**

The percentage of male and female applicants was close in communication engineering (Table 2). Specifically, the percentage of female applicants was stable between 2007 and 2016 ranging from 0.0 to 2.8%, and averaged at 1.0%. The percentage of male applicants was also stable over the same period ranging from 0.8 to 3.3%, with an average of 2.0%.

The percentage of female recruits fluctuated over time with no specific pattern, with an average of 7.2%. Fluctuations over time in the female sample have to be interpreted cautiously as the sample of female recruits is low ( $n = 36$ ) for this occupational group. The percentage of male recruits was relatively stable overtime except a small drop in 2008 and 2009, with an average of 7.1% assigned to communication engineering. For

both genders, the percentage of recruits who were assigned to communication engineering is consistently higher than the percentage of applicants who selected this occupational group as their first choice.

### Gender Trends in Preferred Programme and Programme Offered

This section examines differences by gender between the preferences expressed for a given academic (Arts/ Engineering/ Science) programme and the actual programme offered by the CAF.

**Table 3 :** Gender Trends in Preferred Programme and Programme Offered (2007-2016)

Years	Gender	Arts Programme		Engineering Programme		Science Programme	
		Applicants <i>n</i> (%)	Recruits <i>n</i> (%)	Applicants <i>n</i> (%)	Recruits <i>n</i> (%)	Applicants <i>n</i> (%)	Recruits <i>n</i> (%)
2007	M	280 (47.4)	55 (37.2)	221 (37.4)	74 (50.0)	89 (15.1)	19 (12.8)
	F	99 (58.9)	22 (53.7)	35 (20.8)	13 (31.7)	34 (20.2)	6 (14.6)
2008	M	394 (49.1)	124 (50.8)	300 (37.4)	100 (41.0)	104 (13.0)	20 (8.2)
	F	124 (61.4)	34 (65.4)	38 (18.8)	11 (21.2)	39 (19.3)	7 (13.5)
2009	M	279 (43.1)	68 (38.9)	284 (43.9)	90 (51.4)	81 (12.5)	17 (9.7)
	F	96 (56.1)	33 (57.9)	35 (20.5)	16 (28.1)	36 (21.1)	8 (14.0)
2010	M	291 (43.4)	49 (32.5)	288 (42.9)	84 (55.6)	92 (13.7)	18 (11.9)
	F	114 (62.3)	21 (45.7)	37 (20.2)	18 (39.1)	32 (17.5)	7 (15.2)
2011	M	559 (42.3)	76 (36.0)	565 (42.7)	107 (50.7)	199 (15.0)	28 (13.3)
	F	173 (56.5)	14 (41.2)	67 (21.9)	16 (47.1)	66 (21.6)	4 (11.8)
2012	M	457 (40.4)	71 (37.8)	512 (45.2)	99 (52.7)	163 (14.4)	18 (9.6)
	F	132 (48.2)	20 (46.5)	93 (33.9)	18 (41.9)	48 (17.5)	4 (9.3)
2013	M	376 (40.4)	78 (37.5)	413 (44.4)	103 (49.5)	133 (14.3)	27 (13.0)
	F	113 (56.5)	16 (50.0)	46 (23.0)	13 (40.6)	38 (19.0)	3 (9.3)
2014	M	155 (24.7)	72 (35.5)	319 (51.0)	96 (47.3)	109 (17.4)	35 (17.2)
	F	63 (33.2)	21 (52.5)	47 (24.7)	8 (20.0)	67 (35.3)	11 (27.5)
2015	M	210 (31.0)	97 (42.2)	335 (49.5)	108 (47.0)	104 (15.4)	25 (10.9)
	F	82 (42.9)	23 (63.9)	39 (20.4)	8 (22.2)	49 (25.7)	5 (13.9)
2016	M	222 (28.7)	96 (35.6)	390 (50.5)	145 (53.7)	121 (15.7)	29 (10.7)
	F	89 (42.8)	33 (63.5)	49 (23.6)	14 (26.9)	49 (23.6)	5 (9.6)

## Arts

As shown in Table 3, the percentage of female applicants who chose Arts as their first preference was consistently higher than male applicants. The percentage of female applicants generally decreased over time from 58.9% in 2006 to 42.8% in 2016, with an average of 51.9% over the ten years. The percentage of male applicants was relatively stable in earlier years (2007 to 2013) with an average of 43.7% but decreased to 28.7% in 2016, with an average of 39.0% over the ten years.

Between 2007 and 2013, the percentage of females who were offered the Arts was mostly lower than the percentage of females who selected this programme. However, between 2014 and 2016 more female recruits were enrolled in the Arts (60.0%) than the percentage of females who selected Arts as their first choice of programme (39.6%). The average of female recruits enrolled in the Arts was 54.0%.

Similar trend patterns were observed for male recruits such that, starting from 2014, a number of males were assigned to the Arts (37.8%) despite the fact that they had not selected it as their first choice (28.1%). The average of male recruits enrolled in the Arts was 38.4%. The gap in percentage between preferred programme and enrolment in the Arts in recent years is wider in the female sample.

## Engineering

The percentage of male applicants who selected Engineering as their first preference was much higher than the percentage of female applicants (*cf.* Table 3). Specifically, the percentage of female applicants who selected Engineering was relatively stable over time with an average of 22.8%. The percentage of male applicants who chose Engineering as their first choice slightly increased from a low of 37.4% in 2007 to a high of 50.5% in 2016, with an average of 44.5%.

The percentage of female recruits who were offered Engineering ranged from 21.2 to 47.1% with an average of 31.9%. Overall in earlier years, more females were enrolled in Engineering compared to the percentage of females who selected Engineering as their first choice. In recent years (2014 to 2016), the percentage of female applicants who selected Engineering as their preferred programme was overall very similar to the percentage of female recruits who were enrolled in Engineering.

The same trend, although less accentuated, was observed among the male sample. The percentage of male recruits who were offered Engineering ranged from 41.0% to 55.6% with an average of 49.8%, while 44.5% of male applicants selected Engineering as their first choice.

## Science

The percentage of female applicants who selected Science as their preferred programme was slightly higher than the percentage of male applicants (Table 3). Specifically, the percentage of female applicants who selected Science was relatively stable from 2007 to 2013 (19.5%), peaking at 35.3% in 2014 and decreasing to

approximately 25% in recent years, with an average of 19.5% over the ten years. The percentage of male applicants who selected Science was relatively stable over the last decade, with an average of 14.7%.

The percentage of female recruits who were offered Science was consistently below the percentage of female applicants who selected Science as their first choice. The trend in the percentage of female recruits who were offered Science replicated the trend in the percentage of female applicants whereby percentages were stable in earlier years ( $M = 12.5\%$ ), peaked at 27.5% in 2014 and decreased to 9.6% in 2016. The average of female recruits enrolled in Science was 13.9%.

The percentage of male recruits who were offered Science was relatively stable over time with an average of 11.7%. The gap between the percentage of male applicants who selected Science and the percentage of male recruits who were enrolled in Science was rather small.

### **Comparison with Civilian Post-Secondary Institutions**

While it is beyond the scope of this article to conduct a comprehensive comparison between CMCs and civilian post-secondary institutions, a brief investigation reveals that women's enrolment rates in post-secondary institutions are higher than males' enrolment rates and the percentages of visible minorities and Aboriginal students are significantly higher in civilian universities than in the military colleges.<sup>15</sup> In addition, women are more represented in STEM programmes in civilian institutions (39.0%) than in in the CMCs<sup>16</sup> (12.9%).

This area has been investigated through previous studies. For example, Scoppio and Luyt's research illustrates a diversity gap between the military and civilian education system, showing that in the military colleges...

Caucasian male undergraduates continue to apply and enrol at disproportionately higher numbers than female, visible minorities, and Aboriginal students. This pattern is starkly different for students applying to civilian colleges and universities where women undergraduates consistently outnumber male applicants, and equity-seeking minority enrolment continues to rise.<sup>17</sup>

### **Discussion and Conclusion**

This article represents the initial steps in a more comprehensive study that examines whether any gender inconsistencies exist in the ROTP recruitment and selection process. Specifically, this article documented gender representation among CMCs' applicants and recruits across the last decade by using findings from consultations and analyses of ROTP applications over a 10-year period to identify gaps between preferred occupation and

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<sup>15</sup> CAUT, 2012-13.

<sup>16</sup> Hango, 2013.

<sup>17</sup> Scoppio & Luyt, 2016.

enrolled occupation as well as between preferred academic programme and enrolled programme.

The findings confirm anecdotal evidence about the decreasing trends in the proportion of female applicants considered for CMCs and female recruits studying at CMCs. Importantly, the proportion of female recruits who were enrolled in CMCs has been consistently lower than the proportion of female applicants who met pre-suitability requirements, which suggests that more women are withdrawing from the recruiting process before enrolment. From 2006 to 2016, results showed that female applicants constituted approximately one quarter of the applicant population (23.8%), while female recruits constituted approximately only 17.7% of the recruit population. Explanations for this trend are varied but one possibility is that female applicants self-selected out of the process due to diverse reasons, including perceived organizational fit, family/ friends' influence, and recruitment process perceptions (interpersonal treatment, perception of the selection tests). Other potential contributing factors include occupation choice, availability of preferred occupation, and the correspondence between preferred and offered occupation.

The topic of occupation emerged as a recurring theme during consultations. According to SMEs, the type of occupations available to ROTP candidates is likely a contributing factor to the low representation of women in CMCs. Many available occupations are non-traditional jobs for women; some occupations such as nursing, which resonate more with women, are not supported by RMC; ROTP marketing is constrained by resources. Considering that each year there is a limited number of openings in occupations most preferred by women, it was suggested that women are more likely not getting their first choice of occupation because it is not available.

Secondary data analysis on occupational groups revealed that the highest percentages of females were recruited in support occupations, followed by sea operations, whereas the highest percentages of males were recruited in land operations, land engineering, and air operations. Several gaps between preferred occupation and assigned occupation were identified. These gaps concerned female application/ recruitment in support occupations (41.4% to 33.2%); application/ recruitment in air operation occupations, among male and female applicants; female recruitment in sea operations (14.1%) much higher than males (7.7%) and this despite the fact that this occupational group was selected as first choice by few female applicants (6.0%); and the higher recruitment in land operations compared to the selection of this occupational group as a first choice by males (26.1% to 19.0%) and females (10.6% to 5.5%).

To some extent, these trends are similar to those found in the general Canadian population where female representation rates are higher in the business, health care, and education sectors and lower in trades, transport, and equipment operators and related occupations.<sup>18</sup> Thus, it is not surprising that the majority of ROTP female candidates chose support occupations such as health care administration and logistics. However, the gap

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<sup>18</sup> Statistics Canada, 2011.

analysis revealed that many females were not enrolled in their preferred choice and suggest that some of them have been reshuffled into other occupations, those more likely being sea operations and land operations. This could have an impact on females' satisfaction with their occupation and in turn their retention. This finding also points to the possibility that females' three choices of occupation were not available; consequently, they may not have received an offer, which may explain the lower percentages of female recruits compared to the percentages of female applicants.

Regarding academic programmes, the percentage of female recruits who were offered Arts is overall higher than the percentage of female applicants who selected Arts as their first choice. Conversely, there are high percentages of female applicants who selected Science as their first choice compared to male applicants; however, the percentage of female recruits who were offered Science was rather small. The percentage of male applicants who selected Engineering as their first preference is much higher than the percentage of female applicants and the percentage of male recruits who were offered an Engineering programme is higher than the percentage of female recruits who were offered this programme. This is in contrast with civilian institutions, where women are better represented in STEM programmes than in the CMCs.

Consistent with recommendations that emerged from the informal consultations, changes have been made to the ROTP recruitment process for the Academic Year 2017-18. Specifically, a "women first" approach was adopted, as an EE measure, whereby all female applicants who met the initial requirements were sent admission offers first.<sup>19</sup> As a result of this approach, the percentage of female recruits at the CMCs was 22.3% in Academic Year 2017-18.<sup>20</sup> This recent effort to increase the representation of females at the CMCs, will contribute to attaining the overall CAF goal of 25% women to be recruited.<sup>21</sup>

Our findings provide preliminary evidence that this EE measure is warranted. Further, it is recommended to explore the feasibility of increasing the number of support occupations available for the ROTP as a means to increase female representation at CMCs.

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<sup>19</sup> Raby, 2017.

<sup>20</sup> Email from RMC Registrar's Office, 19 December 2017.

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