

**LANGUAGE, GENDER, AND WORK: INVESTIGATING WOMEN'S EMPLOYMENT
OUTCOMES IN OTTAWA-GATINEAU'S FEDERAL PUBLIC SERVICE**

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ABSTRACT

Women and men experience work differently owing to the gendered nature of work and workplaces, but there is limited insight into whether language and gender intersect to shape employment outcomes. This thesis project examines full-time employment in Ottawa-Gatineau to determine whether being French, English, or bilingual meaningfully influences employment status in the federal public service in terms of occupational attainment and employment income. A series of descriptive and inferential statistical analyses using the 2016 Canadian census are used to examine whether commuting patterns, occupational attainment, and annual employment income are significantly different across industrial sectors and between women and men, as well as between official language communities. The analysis reveals important differences in residential distribution between Anglophones and Francophones working in the federal public service as well as differences in commuting times, especially to suburban office locations. There are also important differences in occupational attainment and income attainment between women and men across official language communities, with women, especially francophone women, being more likely to occupy relatively low-pay administrative jobs in the federal public service compared to men or anglophone and bilingual women. In many ways, bilingualism in the federal public service is made real by the work of francophone women, although they are concentrated in some of the least-well paid occupations and stand to have ever more time consuming commutes as jobs are moved to suburban locations in Ottawa.

RÉSUMÉ

Les femmes et les hommes ont une expérience de travail différente en raison de la nature genrée du travail et des lieux de travail, mais on ne sait pas si la langue et le genre se recoupent pour façonner les résultats en matière d'emploi. Ce projet de thèse examine l'emploi à temps plein dans la région d'Ottawa-Gatineau afin de déterminer si le fait d'être francophone, anglophone ou bilingue influence de manière significative le statut d'emploi dans la fonction publique fédérale, plus spécifiquement dans la réalisation professionnelle et le revenu d'emploi. Une série d'analyses statistiques descriptives et inférentielles ont été effectuées à partir du recensement canadien de 2016 afin d'examiner si les modèles de navette, le niveau de compétence professionnelle et le revenu d'emploi annuel diffèrent considérablement dans les secteurs industriels, entre les femmes et les hommes, et enfin, entre les communautés de langue officielle. L'analyse révèle des différences importantes dans les répartitions résidentielles des anglophones et des francophones travaillant dans la fonction publique fédérale ainsi que dans les temps de déplacement, en particulier vers les bureaux de banlieue. Il existe également des différences considérables au niveau de la réalisation professionnelle et du revenu des femmes en comparaison aux hommes dans les communautés de langue officielle. Les femmes, plus spécifiquement les femmes francophones, sont plus susceptibles d'occuper des emplois administratifs relativement peu rémunérés dans la fonction publique fédérale que les hommes ou les femmes anglophones et bilingues. Alors que plusieurs d'entre elles occupent des postes de gestion et des professions libérales dans la fonction publique, la concentration des femmes francophones dans le soutien administratif est frappante. À bien des égards, le bilinguisme dans la fonction publique fédérale est obtenu grâce au travail des femmes francophones, même si elles sont concentrées à l'intérieur des professions les moins bien rémunérées et même si elles risquent

d'avoir des déplacements plus difficiles en raison du déplacement des emplois vers les banlieues d'Ottawa.

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CHAPTER 1

The Study Context: Why Study Language and Gender?

1.1 Introduction

For decades, the research literature has recognized that women face considerable barriers in the labour force related to pay inequity, occupational segregation, gender discrimination, and women's greater share of social reproduction work relative to men (Employment and Social Development Canada, 2018; Government of Canada, 2018a; Cooke, 1997; Haley-Lock, Berman, & Timberlake, 2013). In this regard, studies have shown that work and workplaces are strongly gendered and that the negotiation of roles at home and work often results in very different paid work experiences for women and men (Employment and Social Development Canada, 2018; Cooke, 1997; Haley-Lock et al., 2013; McLafferty & Preston, 1999; Verniers & Vala, 2018). Moreover, the literature on gendered patterns of commuting has demonstrated that women's employment experiences and outcomes are shaped to a certain degree by the location of workplaces and available transit options (Wheatly, 2013; Weinberger, 2007; Shearmur, 2006; McLafferty & Preston, 1999). By way of illustration, many studies have argued that women are more heavily dependent than men on local employment opportunities, as women are more likely to use public transit to get to work (Sánchez & González, 2016; Wheatley, 2013). Similarly, women tend to travel shorter distances to work than men owing to women's additional domestic labour at home associated with family and child care (Hanson & Pratt, 1991; Wheatley, 2013; Haley-Lock et al., 2013).

A growing number of studies have begun to recognize the diversity that exists among workers, investigating the influence of several other social and demographic characteristics such as education, marital status, presence of children, and racial and ethnic identity (Carlson &

Persky, 1999; Crane, 2007; Glick & Fisk, 2007; Hanson & Pratt, 1991; Ramkhalawansingh, 2017). Still, relatively little attention has been given to how language and gender intersect and shape women's employment experiences and outcomes (Shin & Alba, 2009; Pavlenko, 2001; Christofides & Swindinsky, 2010).

1.2 Why study Language and Gender Employment?

In Canada, knowledge of an additional language correlates to higher earnings due to its actual value in the workplace or its perceived value in hiring practices (Christofides & Swindinsky, 2010). This is especially true in areas of the country where there is a large concentration of official language minority communities (Langlois & Gilbert, 2006; Gilbert, 2012). In this instance, speaking more than one language should, in theory, enhance workers' human capital value (Gándara, 2018). However, the actual benefit of bilingualism as a competitive advantage in the labour market is not clear-cut (Pavlenko, 2001; Shin & Alba, 2009; Fry, 2003; Gándara, 2018; Desjardins & Campbell, 2015). Research has also shown that the benefits of bilingualism are not equal across gender or language communities. Moreover, the relationships between women and men among minority and majority language communities affect the value and benefits of bilingualism in different ways (Pavlenko, 2001).

More research about the relationship between language, gender, and employment in Canada would strengthen this area of knowledge. This research would be especially relevant in those specific regions that are legally recognized as "bilingual" (i.e., Ottawa-Gatineau and New Brunswick) and a province where the national minority language is the language spoken by most of the population (i.e., Quebec).

By situating the case study in the bilingual region of Ottawa-Gatineau, this project aims to make an empirical contribution to the existing body of literature on women's work lives, which

has largely neglected the complicated relationship between language, gender, and employment. This project recognizes that gendered analyses of employment need to scale down from the national level to consider the particularities of labour markets that employ large numbers of women as well as workers from French, English, and bilingual language communities. To this end, the analysis conducted for this project delves into the important role played by linguistic proficiency among workers in Ottawa-Gatineau's federal bureaucracy by focusing on occupational attainment and employment income.

1.3 Objectives and Questions

To examine the complex relationship between language, gender, and employment, this thesis focuses on the Ottawa-Gatineau metropolitan area, which is known for its linguistic and social complexity. It is also a place where French, English, and bilingual language communities are unequally distributed across the metropolitan area, with Francophones being numerically dominant in Gatineau, while Anglophones are a majority in Ottawa. A larger share of bilinguals live in Gatineau, but numerically, the population is larger in Ottawa. Equally as important is the fact that the federal government has benefited from Ottawa-Gatineau's bilingual character, especially in terms of creating a labour force with a high level of institutional bilingualism (Government of Canada, 2017a). As the largest regional employer, the federal government provides many women and men with relatively stable and well-paid employment. It also shapes the qualities of work and the lives of its workers through decisions about bilingual language requirements for many positions.

Ottawa-Gatineau offers the ideal setting to investigate whether language and gender influence employment status in the federal government's core public administration, in terms of occupational attainment and employment income. To this end, a principal objective of the thesis

is to compare French and English language communities in Ottawa-Gatineau, as these are Canada's official language communities and hold particular importance in the National Capital Region and for work in the federal government. This study relies on data gathered by Statistics Canada in the 2016 Census of Population, and detailed analysis is undertaken using a subset of variables (namely, gender, language use at home and work, residential location, workplace location, industrial sector, occupational group, and employment income).

To achieve the main objective of this thesis, the research begins by documenting the characteristics of employment in different industrial sectors across Ottawa-Gatineau and identifying meaningful differences between official language communities. This part of the research describes the residential distribution of federal public servants, the location of federal government offices, and the commuting patterns of women and men. It also describes reported language use in the workplace, the type of work conducted by women and men and their respective employment income attainment to position work in the federal government relative to other key industrial sectors. Once work and language use is described relative to other large industrial sectors, the study focuses on the federal government's workforce in order to investigate the relative importance of language with respect to women's occupational outcomes and employment income attainment.

Specific questions are investigated:

- Are there meaningful differences in the commuting patterns of women and men in various industries and official language communities? Do these differ between Ottawa and Gatineau residents?
- Do women and men who belong to French, English, and bilingual language communities work in different kinds of occupations? Is their employment income similar?

- Do gender and language influence occupational outcomes and employment income in Ottawa-Gatineau's federal public service?

To address these questions, the analysis proceeds in three steps. First, it examines the commuting patterns of women and men working in major industrial sectors in terms of minutes spent commuting from home to work and type of transit used, highlighting significant differences between official language communities. Descriptive statistics are used to compare the commuting patterns of women and men who work in federal government offices located in Ottawa's downtown core and its suburbs. Secondly, the analysis identifies differences in the occupations held by women and men, as well as those held by Francophones, Anglophones, and bilingual workers in major industrial sectors. Lastly, the analysis focuses more narrowly on federal government workers to examine whether language and gender influence occupational outcomes and employment income while controlling for variables such as residential location, education, age, marital status, and presence of children. This part of the analysis is used to evaluate whether language influences women's work lives compared to men working in the federal public service.

1.4 Thesis Organization

The thesis is organized into six chapters, including this introduction, literature review, a description of data and methodology, research context, research analysis and findings, and a conclusion. Chapter 2 assesses literature from several bodies of knowledge that inform the project, focusing on studies examining the gendered qualities of employment, the dynamics of language and work, and commuting patterns. Chapter 3 describes the main research objectives and questions, as well as the data and methods used during the research process. As background and context for the analysis and discussions presented in this thesis, Chapter 4 outlines the social,

economic, and linguistic geography of the Ottawa-Gatineau metropolitan area and provides an overview of the region's service-based economy. This chapter underscores the significance of bilingualism in the National Capital Region, as well as the unique qualities of language geographies across Ottawa-Gatineau. The chapter concludes by outlining the increasing suburbanization of federal offices across the region. Chapter 5 identifies the differences in occupations held by women and men by industrial sector, and highlights differences in the type of work carried out by French, English, and bilingual workers. This chapter focuses on the federal government workforce to investigate whether differences in occupational attainment and income between francophone and anglophone women persist when important demographic and social characteristics such as age, marital status, presence of children, highest level of educational attainment, and place of residence are included in the analysis. Chapter 6 summarizes key findings and discusses the main insights about the ways in which language and gender meaningfully influence women's employment status in the federal public service. This chapter also acknowledges the limitations of this study and suggests opportunities for future research on the intersection of language and gender with respect to women's employment in Canada.

CHAPTER 2

Setting the Research Context: An Overview of Research about Women's Work Lives in North America

2.1 Introduction

Several bodies of literature about women's employment inform this research project. A discussion of pertinent studies is undertaken to contextualize analyses and clarify questions examined in subsequent substantive chapters. Important areas of knowledge include research on the gendered qualities of work and workplaces, issues around language, and gendered patterns of commuting. Attention is given in particular to the challenges that women experience in their work lives, and the complexities associated with the journey to work in a context in which office employment has steadily moved away from the downtown core. In addition, this chapter reviews the few studies on language and women's employment. It stresses that there is relatively little discussion of the intersection of gender and language in the research literature, especially in a bilingual context. The presentation concludes by underlining the fact that all analyzes need to acknowledge the dissimilarities in outcomes between women and men, that work and workplaces are strongly gendered, and that the negotiation of roles at home and work can result in very different paid work experiences for women and men.

Research about women's employment experiences in Canada largely focuses on comparing differences in job status, activities, and earnings relative to men. However, an increasing number of studies have started to acknowledge the diversity that exists among workers, examining the effects of other social and demographic characteristics such as education, racial and ethnic identity, marital status, and the presence of children (Carlson & Persky, 1999; Crane, 2007; Glick & Fisk, 2007; Hanson & Pratt, 1991; Ramkhalawansingh, 2017). For

example, Ramkhalawansingh (2017) notes that over and above a wage disparity between women and men, the disparity is strongly mediated by ethno-racial status, as racialized women often experience some of the greatest earnings penalties. In fact, it has long been argued that women face significant barriers in the labour force, due largely to occupational segregation, gender discrimination, and social reproduction work (Employment and Social Development Canada, 2018; Government of Canada, 2018a; Statistics Canada, 2017a; Cooke, 1997; Haley-Lock et al., 2013). Compared to the amount of attention that has been given to gendered differences between women and men based on social, demographic, and labour market characteristics, relatively little consideration has been given to the ways that the intersection of language and gender influence women's employment in North America (Shin & Alba, 2009; Pavlenko, 2001; Christofides & Swindinsky, 2010).

2.2 Gendered Qualities of Employment

As more women entered the workforce through the twentieth century, an increasing amount of research investigated their employment experiences relative to men (Haley-Lock et al., 2013; Hoover, Hack, Garcia, Goodfriend, & Habashi, 2018). During the second half of the twentieth century, the number of jobs in Canada's service sector increased and the presence of women in the labour market steadily rose (Statistics Canada, 2015). From 1953 to 1990, women's labour force participation steadily climbed from approximately 24% in 1953 to 76% by 1990 (Statistics Canada, 2015). The increasing presence of women in the labour market slowed in the early 1990s, reaching 82% in 2014 (Statistics Canada, 2015). Accordingly, the difference between the employment rates of men and women has narrowed from nearly 70% in the 1950s to less than 10% in 2014 (Statistics Canada, 2015). The increase in women in the workforce has resulted in a greater share of women working in full-time positions on a yearly basis (Statistics

Canada, 2015). Today there are also more women working in relatively well-paid occupations, and this has led to higher median annual wages and salaries for women compared to earlier time periods (Statistics Canada, 2015). Nevertheless, women on average continue to earn less than men.

2.2.1 Pay Inequity in Canada

Researchers have argued that women's decisions to participate in the labour force are rooted in an assessment of the cost of remaining at home relative to the cost associated with working in the paid labour force (Government of Canada, 2019a; Shearmur, 2006). Of particular interest is the time and cost associated with commuting to work, availability of affordable childcare, and pay inequities (Haley-Lock et al., 2013; Shearmur, 2006; Statistics Canada, 2017a; Government of Canada, 2018b). Women continue to earn less relative to men despite greater numbers of women who have entered the labour force and evolving social norms about gender roles (Government of Canada, 2018b; Government of Canada, 2019a). Marital status has historically affected women and men differently due to a number of reasons including women's greater share of household responsibilities and childcare responsibilities (Statistics Canada, 2017a). Historically, women's wages were set lower than those of men because men were expected to support the family (Statistics Canada, 2017a). It was widely regarded that women did not need the same pay as men since it was assumed that women had no dependents, regardless of whether that was the case in reality (Ramkhalawansingh, 2017, p. 2). There remains a persistent wage gap between women and men in Canada, where for every dollar of hourly wages a man earns working full-time, women, under the same circumstances, earn 21% less (88.5 cents) (Government of Canada, 2018a). The gap is even wider for Indigenous women (57%), women with disabilities (46%), immigrant women (39%), and racialized women (32%)

(Ramkhalawansingh, 2017, p. 1). The gender wage gap has been explained in terms of the concentration of women and men in different industries and the prevalence of women in part-time work (Government of Canada, 2019a). Changes in the distribution of women and men across occupations, women's greater educational attainment, and the presence of fewer men in unionized work have all helped narrow the gap from 12.6% in 2006-07 to 8.8% in 2016-17 (Government of Canada, 2017b; Government of Canada, 2019a). However, many studies have left nearly two thirds of the gender wage gap unexplained (Government of Canada, 2019a), attributing it to differences in characteristics between women and men that fell beyond the scope of most studies, such as work experience and gender-related biases in the workplace (Government of Canada, 2019a).

Issues around gender equality in the workplace led to the introduction of legislation in advanced industrial countries geared toward addressing gender discrimination in recruitment, salary, and promotion (Verniers & Vala, 2018). Since the 1950s, the Government of Canada has worked to address the wage gap between women and men. This began in 1951, with the signing of the *International Labour Organization's Convention 100, Equal Remuneration Convention* to safeguard equal pay for work of equal value, regardless of gender (Government of Canada, 2018a). Later, the *Canadian Human Rights Act* (1977) recognized pay equity as a human right and the *Canadian Charter of Rights and Freedoms* (1982) guaranteed the right to gender equality and freedom from gender-based discrimination (Government of Canada, 2018a). A few years later, the *Equal Wages Guidelines* (1986) helped guide the application of pay equity provisions, under which skill, effort, responsibility, and working conditions were used to assess the value of work (Government of Canada, 2018a). These pieces of legislation have served to protect workers in Canada, and the central principals of these acts have been mirrored in provinces such as

Ontario and Quebec (Government of Ontario, 2019; Government of Quebec, 2016). In recent years, the federal government introduced proactive pay legislation for work in federally regulated employment in order to reduce the pay disparity between women and men (Government of Canada, 2018b). Despite these advances, the gender wage gap remains a complex issue. It is argued that the gap arises due to a lack of women in leadership positions, bias and discrimination in the workplace, women's greater share of unpaid labour, undervaluing of work traditionally done by women, the over-representation of women in part-time work, and predominance of women in low-pay sectors (Cooke, 1997; Hanson & Pratt, 1991; McLafferty & Preston, 1999; Employment and Social Development Canada, 2018).

2.2.2 Occupational Segregation

The undervaluing of female-dominated occupations contributes to perpetuating inequalities at work and in workplaces (Statistics Canada, 2017a). Many studies argue that women's lower wages are in part attributed to their concentration in traditionally female-dominated, low-wage occupations (Armstrong & Armstrong, 2010; Statistics Canada, 2017a), such as teaching, nursing and other health services, clerical or other administration, and sales and services (Statistics Canada, 2017a). Invariably, these occupations are compensated at rates lower than those of male-dominated occupations, even if the work involves similar skill levels (Statistics Canada, 2017a). However, this issue has also been identified in a range of female-dominated occupations where women's average hourly wage is less than that earned by men (Statistics Canada, 2017a). For example, in 2018, women aged 25 to 54 earned 87 cents less on average than men aged 25 to 54 in the same occupation (Government of Canada, 2019a). Moreover, ideas about feminine traits result in women being regarded as incompatible with particular occupations and less invested employees than men in a wide range of contexts

(Bobbitt-Zeher, 2011, p. 781). Studies also suggest that women may be less adept than men at negotiating their pay or less interested in competing, all attributes regarded as "masculine" in the context of gender socialization (Hoover et al., 2018; Statistics Canada, 2017a).

2.2.3 Gender Discrimination in the Workplace

Social status, cultural stereotypes, and biased hiring practices are recognized to influence women's employment (Hoover et al., 2018; Ridgeway & England, 2007). One study examining the views of United Kingdom Generation Y graduates about their career transition after graduation shows that more women continue in a job they held as students after graduation, women are more likely to start in a non-graduate level job, and are more likely than men to face gender discrimination in the workplace (Maxwell & Broadbridge, 2014). These differences set women and men on divergent career paths as early as the transition from university (Maxwell & Broadbridge, 2014). This suggests that there are more opportunities for career progress and advantage among men (Maxwell & Broadbridge, 2014). Another study identifies patterns of gender discrimination in U.S. workplaces (Isaacs, 1995). In this instance, the share of women working as computer scientists is similar to the share of women graduating with degrees in that area, but when these women are hired, they tend to start in less skilled positions or earn lower starting salaries than men (Isaacs, 1995). In fact, the gap between women and men's salaries and promotion rates continues to increase over time and is present even when years of experience, educational achievement, and industry are taken into consideration (Isaacs, 1995). Moreover, studies show that women are often less demanding than men and occupy more flexible positions to accommodate their domestic work at home (Statistics Canada, 2017a). Consequently, women's earning potential is lowered and results in fewer opportunities for career advancement (Government of Canada, 2018a). This perceived flexibility also enables employers to pay their

employees less since: a) flexibility is seen as an “untaxed” asset or benefit associated with an occupation and b) women are perceived as less productive than men because many women are not available to work additional hours. Moreover, reduced work hours or breaks in employment can have scarring effects on career trajectories when it comes to discrimination in recruiting, hiring, and promotions (Statistics Canada, 2017a; Rubery, 2015), thus contributing to the wage disparity between women and men (Statistics Canada, 2017a; Rubery, 2015). This is especially important as the majority of Canadian mothers take maternity leave, which in Canada can last as long as 18 months (Government of Canada, 2017a).

2.2.4 Social Reproduction Work

Paid maternity and parental leave enable women to maintain more linear careers in that they do not have to exit the labour market and then find a new occupation upon return to work after a leave ends. Research does suggest, however, that these same benefits can result in employers being increasingly reluctant to hire women (Rubery, 2015). Evidence shows that women’s employment is shaped to a greater extent than men by their caregiving roles, and by employers’ assumptions about these roles (Statistics Canada, 2017a). Equally as important is women’s ability to balance paid work with unpaid domestic work at home, as women are often responsible for the bulk of unpaid labour in their household, known as social reproduction work (Haley-Lock et al., 2013; Wheatley, 2013). This daily unpaid work includes a range of household tasks necessary to ensure daily life continues (e.g., food preparation), as well as childcare and elder care (Frederiksen, 2015, p. 143). When childcare fees are too high or options are inaccessible, many families will choose to have one parent to stay at home rather than return to work (Government of Canada, 2018a). These responsibilities can result in more absences for women during the work week for reasons of illness, injury, and personal or family

responsibilities (Statistics Canada, 2017a). Single parenthood also tends to have a negative effect on worklife, which is felt disproportionately by women, as women in couples already have a greater burden of domestic labour than men (Government of Canada, 2015b). A single parent would be responsible for the daily tasks associated with childrearing and unpaid domestic labour, which may be difficult to balance with paid work (Statistics Canada, 2017a).

2.3 The Dynamics of Language and Work

Compared to the amount of attention that has been given to gendered differences between women and men based on social, demographic, and labour market characteristics, relatively little consideration has been given to the influence of language proficiency on women's work lives (Shin & Alba, 2009; Pavlenko, 2001; Christofides & Swindinsky, 2010). However, many studies neglect to incorporate gender into analyses (Desjardins & Campbell, 2015; Fry, 2003; Gándara, 2018). Language facility and knowledge is a form of human capital (Shultz, 1961), speaking more than one language in theory should represent additional human capital (Gándara, 2018). Nonetheless, the general belief that bilingualism can offer a competitive advantage in the labour market has been contested in scholarship (Shin & Alba, 2009). Linguistic capital has historically not been compensated well, and bilingualism has even been penalized in the United States (U.S.) (Gándara, 2018). For example, a study examining Asian and Hispanic workers in the U.S. notes a lack of economic return for bilingualism (Shin & Alba, 2009). In some cases, bilingual workers have significantly lower wages than their English counterparts, with a limited number of exceptions (Shin & Alba, 2009). This study considers interactions between language and other variables such as education, employment in the public rather than private sector, as well as the size of population of mother tongue speakers (Shin & Alba, 2009). Another U.S. study uses the National Adult Literacy Survey to examine wages of bilingual workers (Fry, 2003). This study

notes that although the nominal wages of bilingual workers exceed their monolingual counterparts, much of this is due to the fact that bilinguals have higher levels of education (Fry, 2003). When human characteristics are held constant, bilingualism does not have a statistically significant economic return on weekly wages (Fry, 2003). Since there is little reward for bilingualism, there is no incentive to acquire or maintain additional language skills, which encourages linguistic assimilation (Shin & Alba, 2009; Fry, 2003). Previous studies that use U.S. census data to conduct economic studies lack sufficient information about individual's language proficiency in order to determine the degree to which workers are literate in both languages and their actual level of proficiency (Shin & Alba, 2009). In addition, it is important to note that U.S. studies typically are not conducted in a bilingual environment, and therefore cannot be easily applied to a Canadian context.

In Canada, knowledge of more than one language has been linked to greater earnings due to the actual value placed on bilingualism and multilingualism in many workplaces, and/or the value of language proficiency in hiring practices (Christofides & Swindinsky, 2010). This is especially true in areas of the country where there is a significant concentration of anglophone and francophone communities (Langlois & Gilbert 2006; Gilbert, 2012). A Quebec-based study argues that the ability to speak the second official language (i.e., English) is rewarded, while there are insignificant benefits in the rest of Canada (Christofides & Swindinsky, 2010). As the only province with a strong francophone majority, Francophones and Anglophones in Quebec are more likely to be bilingual and retain this language profile over their lifetime (Government of Canada, 2016). This may influence the value and benefit associated with bilingualism in the workplace (Government of Canada, 2016). A New Brunswick case study identifies areas of economic benefit for bilingualism in that the province's bilingual environment and workforce

have helped to attract and establish some service-based industries (Desjardins & Campbell, 2015). However, Desjardins and Campbell (2015) also note that monolingual residents derive some of the greatest benefits from these businesses, as most companies that were attracted by New Brunswick's bilingual workforce only require a portion of their employees to speak both languages. Pavlenko (2001) suggests that the benefits of bilingualism are not equal across genders or language communities, and that the relationships between women and men among minority and majority language communities influence the value and benefits of bilingualism in different ways. In some instances, knowledge of the majority language may be useful for an entire community, yet in others, only women profit from shifting to the majority language (Pavlenko, 2001).

While there has been little research on language proficiency in specific industries in North America, a U.S. study notes that bilingual registered nurses have higher earnings than monolingual nurses (Coomer, 2011). This study examines the degree of proficiency in a language other than English, and the source of higher earnings for bilingual nurses. Despite increased demand for bilingual workers, Croomer found limited evidence that this resulted in higher earnings (Coomer, 2011). The majority of the wage premium was due to accounting for the skills and ability of registered nurses (Coomer, 2011). More research on the relationship between linguistic proficiency and women's work lives in Canada could help bolster this area of knowledge, which is difficult to address using U.S. case studies given that English is the only officially recognized language. Canada also has specific regions that are legally recognized as

“bilingual” (i.e., New Brunswick), and a province where the national minority language is the language spoken by most of the population (i.e., Quebec).¹

2.4 Gendered Patterns of Commuting

Beyond focusing on the influence of individual characteristics and workplace settings on women’s employment experiences, evidence demonstrates that the location of workplaces and available transit options also influence employment experiences and outcomes (Wheatly, 2013; Weinberger, 2007; Shearmur, 2006; McLafferty & Preston, 1999). Given that most women live and work in a variety of urban and suburban neighbourhoods, the complexities associated with the journey to work has attracted significant research attention (McLafferty & Preston, 1999; Hanson, Kominiak, & Carlin, 1997). Women’s access to employment has been discussed in terms of the distance women are willing to travel to work, and the ways commuting can be constrained by household responsibilities (England, 1993; Wheatley, 2013). Although commuting patterns vary, women tend to travel shorter distances to work owing to difficulties related to combining paid employment with domestic labour, especially for married women or those with children (Hanson & Pratt, 1991; Wheatley, 2013; Haley-Lock et al., 2013). Some research suggests that the gender gap in commuting time and distance has narrowed in some areas over time (Doyle & Taylor, 2000; Vandersmissen, Thériault, & Villeneuve, 2006), but the majority of scholarship has emphasized that gender differences endure (Haley-Lock et al., 2013; Shearmur, 2006; Crane, 2007). Moreover, the decision to live in suburban areas can influence women’s career trajectories by limiting their labour market search field and employment opportunities (Hanson & Pratt, 1991, p. 250). Housing preferences must be weighed against the

¹ There is considerable regional variation across Quebec, with English-language households constituting an important portion of the population in Montreal and several smaller cities and towns (Standing Committee on Official Languages, 2011).

distance and time it takes to reach available workplaces (Haley-Lock et al., 2013; Shearmur, 2006, p. 334; Haley-Lock, et al., 2013). However, more women than men rely on local employment opportunities because women are more likely to take public transit to get to work, which usually increases their commuting time (Sánchez & González, 2016; Wheatley, 2013). In addition, women are more likely than men to change job location in order to be closer to home in order to fulfill childcare and domestic responsibilities (Hanson et al., 1997, p. 282).

The complex relationship between the suburbanization of employment, residential location, and labour market outcome has been investigated in the literature on spatial mismatch (England, 1993; McLafferty & Preston, 1999; McLafferty, 2015; Li, Campbell, & Fernandez, 2013). Due to economic restructuring and racialized housing markets, many urban residents are concentrated in residential areas where they are less likely to find job opportunities that match their skillsets, job experience, and education, especially if they lack advanced levels of education or strong experience (Hanson & Pratt, 1991; Hellerstein, Neumark, & McInerney, 2008). Yet the mismatch between residential location and suitable job opportunities is not the only significant challenge in the geographies of employment that women face in North American cities. There is a general consensus in the literature that employment increasingly is decentralized within North America's large metropolitan areas (Gad, 1985; Matthew, 1993), which has been supported by increased accessibility by private vehicles, lower suburban housing costs, proximity to a desirable labour supply, space for expansion, and the availability of amenities (Gad, 1985, p. 347). Consequently, the number and share of jobs that were once concentrated in downtown cores have steadily declined and moved to the suburbs (Gad, 1985). At the same time, the lack of efficient public transit systems for bringing workers to available jobs in the suburbs further limits access to a full range of work opportunities found in a metropolitan area (Matthew, 1993).

Despite the breadth of knowledge on gendered patterns of commuting, little is known about the commuting patterns of women from official language communities in Canada. In fact, there is limited consideration of the residential distribution of language communities across North American cities, and how this could influence women's employment opportunities and labour market outcomes.

2.5 Conclusion

This chapter underlines the fact that women's employment experiences are influenced by individual characteristics, such as gender, education, income, race, marital status, and presence of children, as well as the gendered nature of work and workplaces. Evidence demonstrates that the location of workplaces and available transit options also influence women's employment experiences and outcomes. This chapter has taken a broad approach in reviewing research about women's employment in North America, rather than focusing on specific Canadian cities and their industrial and occupational structures. Particular attention has been given to the challenges that women experience in the workplace, and the complexities associated with the journey to work in a context where employment has gradually moved away from the downtown core. While the value and economic benefits of bilingualism in the workplace and for hiring are considered in research studies, clear benefits of bilingualism have not been established. More research is required on the intersection of language and gender in Canada, as most studies have been conducted in the U.S. and not in a bilingual context (Shin & Alba, 2009). This provides the opportunity for an investigation about the employment status of women and men belonging to official language communities. In a Canadian context, research examining differences in the employment experiences of francophone and anglophone communities would be significantly enhanced by the adoption of a gender lens. This chapter underscores the fact that all analyses

need to recognize the dissimilarities in outcomes between women and men, work and workplaces are strongly gendered, and balancing paid employment with unpaid social reproduction work can result in very different paid work experiences for women and men. It also recognizes the lack of research about official language communities in Canada in relation to women's employment in bilingual workplaces. The next chapter outlines the project's methodology and methods in order to understand and reproduce the analyses carried out in this research project.

CHAPTER 3

Data and Methodology

3.1 Introduction

This study examines language, gender, and employment status among federal government workers living in the Ottawa-Gatineau metropolitan area. In particular, the study focuses on the intersection between language and gender in relation to the types of occupations and level of employment income attained by Anglophones and Francophones. The emphasis on French and English language communities influences an array of methodological and definitional decisions, as “who” is examined is integral to the interpretation of findings. The study focuses on one particular industrial sector – women and men working for the federal government – although the results are compared and contrasted in relation to other industrial sectors in Ottawa-Gatineau.

The study examines the complex relationships between language, gender, and employment within a metropolitan area that is recognized for its linguistic and social complexities (Ray & Gilbert, 2020). French and English language communities are unevenly distributed across the metropolitan area, with Francophones being numerically dominant in Gatineau, while Anglophones hold a similar position in Ottawa. The federal government in many ways benefits from the region’s bilingual composition, especially in terms of creating a federal workforce that reflects the importance of French and English as Canada’s two official languages. As the largest regional employer, the federal government provides many women and men with relatively stable and well-paid employment. It also influences the qualities of work and the lives of employees through decisions about bilingual language requirements for many positions, as well as in terms of where to locate offices.

3.1 Objectives

This project aims to develop a better understanding of the complex topic of work in a bilingual social environment, with a focus on women employed in the federal government. The study examines occupational status and employment income attainment, but it also considers disparities between anglophone and francophone employees in terms of where individuals live and work. It is argued that differences between groups in terms of where individuals live and work is especially important to consider as the commuting experience is an important part of work life when people often face the challenge of balancing employment opportunities and responsibilities at home (Hanson & Pratt, 1991; Wheatley, 2013; Haley-Lock et al., 2013). In addition, commuting may well become more challenging for many workers given decisions by the federal government to move many offices to suburban locations.

The primary objective of this chapter is to describe a set of methodological issues that underpin the analyses conducted for the study. The 2016 Canadian Census is the principal data source, and issues in relation to variables describing language use and knowledge are initially discussed. Other variables used in the analysis are also discussed, especially in relation to the aggregation of categories. The chapter then examines mapping and statistical analysis issues that inform the interpretation of results. Investigating language and gender in relation to employment in the federal government is a fundamental aspect of the study; however, the analysis also attempts to examine these factors relative to other characteristics such as education and family status in influencing occupational and income attainment.

3.2 Determining Language Knowledge: Home Language and Mother Tongue

In Canada, language use and knowledge may be examined in a number of ways using the census. Questions are asked about mother tongue,² language used most often at home, other languages spoken regularly at home, knowledge of official languages (English and French), and language(s) most often spoken in the workplace. A great deal of research in Canada uses “mother tongue” responses as knowledge of the first language learned is believed to provide insight into language understanding and proficiency, as well as cultural identity because it was learned in childhood (Ray & Gilbert, 2020; Office of the Commissioner of Official Languages, 2009; Corbeil & Lafrenière, 2010).³ However, this research is interested in the active use and knowledge of a language; consequently, most of the analysis is based on “language used at home”. Individuals who used English at home were defined as “English or Anglophone” and those who spoke French most often at home were defined as “French or Francophone”. People who speak both languages with about equal frequency at home were categorized as “Bilingual”. The relatively small number of respondents that spoke another language along with either French, English, or French and English, were included in the main language categories.⁴ Individuals who only speak a language other than French or English at home were defined as “Other” language speakers.

Home language has the advantage of identifying individuals for whom English or French is the language that is used frequently during everyday life. It also avoids the problem of

² Mother tongue refers to the first language learned at home in childhood and that is still understood by a respondent.

³ Mother tongue is often used in studies about the intersection of language and employment in service-based economies (Shin & Alba, 2009; Christofides & Swindinsky, 2010).

⁴ For example, language used most often at home was reclassified into the categories of “English”, “French”, “Bilingual”, and “Other languages”. Single response categories for “English” and “French” were singled out, followed by data multiple responses. From the data on multiple responses, “English and French” were reclassified as the “Bilingual” category. Data for “English and a non-official language” was added to the larger “English” category for single responses, “French and a non-official language” was added to the “French” category, and “English, French and a non-official language” was added to the “Bilingual” category.

examining people who seldom use their mother tongue in the course of everyday life (i.e., an individual whose mother tongue is English but speaks French exclusively at home).⁵ Moreover, it acknowledges the fact that Canada's official languages are actively used in the homes of many Canadians, regardless of whether French or English is the first language learned and still understood (Statistics Canada, 2017b). Finally, this study uses languages used in the workplace to a very limited extent.⁶ Overwhelmingly in Ottawa-Gatineau, the language of work is English and consequently this variable is a weak indicator of overall language knowledge, use, and identity.

3.3 Examining the relationships between gender, language and employment: data and analysis issues

This study relies primarily on the Canadian census (2016) for the analysis of employment status among federal government workers living in Ottawa-Gatineau. Statistics Canada is the agency responsible for the administration the census and data management, and it prioritizes the confidentiality of individual questionnaires (Statistics Canada, 2019a). A census is performed every five years and provides a social, economic, and demographic snapshot of a moment in time (Statistics Canada, 2019a). Some basic questions, such as age and sex, as well as an array of language questions, are asked of every Canadian, while a much larger set of questions is posed to 25% of households. Access to individual records was achieved through the Canadian Research

⁵ An increase in multilingualism could indicate that there are more people at home speaking languages(s) other than their mother tongue (Statistics Canada, 2017a), and while this could be considered a language practice, Statistics Canada notes that it can also be used to define groups (Statistics Canada, 2017a).

⁶ Languages used most often at work was re-coded using the same methods as language spoken most often at home.

Data Centre Network, which enables researchers to conduct sophisticated and detailed analyses using individual-level records from data sets such as the Canadian census.⁷

3.3.1 Data

During the research process, several variables were modified to include a smaller number of groupings, or to categorize ratio-level data into intervals. Modified variables⁸ included language spoken most often at home, language used most often at work, marital status, highest level of educational attainment, commuting duration, main mode of commuting, industry, occupation, and employment income (Table 1). Modifying the data made interpreting results clearer, as the categories reflected the study’s objectives.

Table 1 Modified variables and associated categories

Modified variables	Categories
Home Language	“English”, “French”, “Bilingual”, and “Other” language
Work Language	“English”, “French”, “Bilingual”, and “Other” language
Marital Status	“married or common-law” and “single”
Highest Level of Educational Attainment	“no certificate, diploma, or degree”, “secondary (high) school diploma or equivalency certificate”, “apprenticeship or trades certificate or diploma”, “college CEGEP or other non-university certificate or diploma”, and “university certificate or diploma”
Commuting Duration	“0-10”, “11-20”, “21-30”, “31-40”, “41-50”, “51-60”, and “61+” ⁹
Main Mode of Commuting	“private vehicle”, “public transit”, “active transportation”, and “other” modes of transit
Industry	“Federal Government”, “Retail, Accommodation, and Food Services”, “Finance, Insurance, and Real Estate (FIRE), and Professional, Scientific, and Technologies”, “Health”, and “Other” industries
Occupation	“Management”, “Professional”, “Technical and Paraprofessional”, “Administration and Administrative Support”, and “Other” occupations
Employment Income	“\$0-\$37,499”, “\$37,500-74,499”, “\$74,500-112,499”, and “\$112,500 or greater” ¹⁰

⁷ The analysis was conducted at the COOL RDC (Carleton, Ottawa, Outaouais Research Data Centre). Researchers must apply through a formal application process to the Canadian Research Data Centre Network program through Statistics Canada, and once approved, researchers are considered “Deemed Employees” of Statistics Canada. For this project, permission to analyze the census was granted in Fall 2018. Statistics Canada has implemented stringent procedures to ensure the anonymity of respondents; consequently, analyses are vetted by Statistics Canada employees to ensure the anonymity of respondents (Statistics Canada, 2019a). Prior to being vetted by Statistics Canada officials, all data values are weighted using the census’ individual weighting factor, and they are rounded by a factor of 5. A variable count must be 10 or greater in order for frequency counts to be released.

⁸ See the following for the original Statistics Canada coding of variables: <https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/az1-eng.cfm#S>

⁹ Intervals were based on the standard deviation of the average commuting time of federal public servants.

¹⁰ Employment income was modified from ratio scale to intervals based on the standard deviation of the employment income of full-time federal public servants.

3.3.2 Methodology

In this study, census data were used primarily in three ways. First, descriptive statistics about language use and basic demographic characteristics of the population were created in order to produce profiles of language use and the social and demographic characteristics of employed women and men. These profiles focused largely on federal government workers, but analyses for other industrial sectors were also created for the purposes of comparison. In addition to describing the language characteristics of women and men based on home language, this portion of the analysis also included descriptive analysis of language use in the workplace and the residential and workplace locations of workers based on their gender and language group characteristics. Counts of individuals' characteristics were essential in creating a baseline of knowledge about employees, and were essential in providing a cartographic representation of the residential distributions of French, English, and bilingual language communities. These data were also instrumental in identifying concentrations of federal government employees. As such, maps were fundamental in identifying potential mismatches between the residential location of federal public servants by language group and the location of federal government offices. These findings were considered alongside issues related to language demands in the workplace and the language practices of federal public servants working in offices located in Ottawa and Gatineau.

The work lives of women and men are shaped to a large extent by the type of work performed (occupation) and income, but also by the daily challenge of moving through space between home and work. To complete a profile of the work characteristics of federal employees, as well as for workers in other sectors, the commuting patterns of women and men by linguistic groups were examined in terms of travel time between home and work and mode of transit. To this end, the commuting patterns of federal employees working in the Ottawa downtown core are

contrasted with those commuting to Heron Park, one of the more significant and well-established suburban concentrations (located south of Old Ottawa South and west of Alta Vista).

ArcGIS cartographic software was used to create maps of the residential distribution of French, English, and bilingual language communities, as well as the locations of work for federal government employees. The residential distribution of each population group was calculated as a proportion of the total metropolitan population for that group living in an individual census tract [census tract population of group x / total population of group x in the metropolitan area].¹¹ The same procedure was used to map the concentration of federal government workers by workplace location across Ottawa-Gatineau. All geospatial analysis was conducted at the census tract level because cell counts were too small at the scale of dissemination areas and the data could not be released. Workplace location maps provide a visual representation of areas where there is a strong concentration of federal government workers. It was during this phase of the research that Heron Park and Ottawa's downtown business precinct were identified as sites to compare and contrast in terms of accessibility and commuting time for federal workers.

The study concludes by examining occupational attainment and income levels of francophone and anglophone federal workers by gender. For purposes of comparison, the results for other industrial sectors are also presented, although most of the analysis focuses on similarities and differences between Francophones and Anglophones employed in the federal government sector. One of the questions to emerge from the descriptive analysis is whether observed differences between anglophone and francophone women and men by occupation are a

¹¹ This research uses a digital boundary shapefile that shows the full extent of the Ottawa-Gatineau geographic area (Statistics Canada, 2019b). A shapefile is a geospatial vector data format for geographic information system software (ESRI, n.d). This is a common file format for work in ESRI ArcGIS software. All shapefiles were projected using NAD83 MTM zone 9, a projected coordinate system commonly used for the Ottawa-Gatineau region (Geomatics Solutions, 2020).

function of gender and linguistic characteristics or other factors such as educational attainment or marital status. The last portion of the analysis, therefore, goes beyond descriptive results for each group and uses a number of inferential statistical analyses to examine the relative significance of gender and language for understanding occupational attainment and income among federal government workers.

Multinomial logistic regression models were used to determine the significance of gender and language in determining occupational status relative to other social and demographic variables such as age, marital status, presence of children, highest level of educational attainment, and place of residence. This method was used because it allows for comparative analysis of the influence of multiple independent variables on a dependent variable, in this case “occupational group” (Stockemer, 2019, p.163). It also allows for analysis of a dependent variable (Occupation) with more than two possible outcomes (i.e., “Professional”, “Management”, “Technical and Paraprofessional”, “Administrative”, or “Other” occupations). Given a focus on women’s employment, it was important that the analysis examine how being a woman influences the likelihood of working in particular occupation groups. To accomplish this objective, three separate models were run for: 1. both genders, 2. women, and 3. men to examine the relative importance of the various independent variables on occupational attainment. For the model with both genders, forced interactions were used to investigate the joint effects of home language and gender. The interaction term attempts to weigh the relative importance of the combined effect of language and gender relative to the independent effects of each variable. The three regression models helped single out which variables, or combination of variables, influenced the likelihood of a federal public servant working in “Management”, “Technical and

Paraprofessional”, “Administrative”, or “Other” occupations relative to a “Professional” occupation.

In interpreting the multinomial regression models used in this analysis, variables were considered significant at a 95% or greater confidence level (Stockemer, 2019, p. 166). Variables that did not meet the 95% benchmark were not interpreted because they were not significantly different from zero. The odds ratio was used to assess the relative influence of each variable on occupational outcome.¹² Holding all other independent variables constant, an odds ratio value below 1 or above 1 indicates an increase or decrease in the likelihood of working in a particular occupational group relative to a professional occupation.¹³ Variables with a higher standardized beta coefficient had greater explanatory power in the model (Stockemer, 2019, p.168) and the standard error was used to determine the degree of variation around a predicted coefficient (Stockemer, 2019, p. 156). Smaller standard errors relative to the regression weight provided more certainty that the interpretation of the relationship was correct (Stockemer, 2019, p. 156). These results help identify which characteristics, or combination of characteristics, influence the type of work carried out by women in the federal government and showcase the relative importance of home language and gender in shaping occupational outcomes.

Inferential statistics were also used to evaluate differences in the average employment incomes of women and men working in the federal government by language group. Initially,

¹² In multinomial logistic regression, the odds ratio is calculated by setting reference categories for each variable, from which it calculates the regression coefficient for the model. For example, SPSS treated being married as the default and calculated an odds ratio for being single relative to being married. The estimates are relative to the reference category, and for a unit change in the predictor variable, the variable for being single is also expected to change if the all variables in the model are held constant. Odds ratios with values over 1 are interpreted as having a positive effect, whereas those under 1 have a negative effect. A value of 1 is interpreted as having equal probability (no positive or negative effect).

¹³ Odds ratios below 1 are as low as 0, whereas values above 1 could range to infinity (UCLA, n.d). The odds ratio is used because it is the easiest to understand and interpret.

independent t-tests were used to compare average employment incomes for 1. French and English women, 2. French and English men, 3. French women and French men, and 4. English women and English men. The tests showed whether average employment incomes were significantly different for each pair, and highlighted the income disparities between women and men and Francophones and Anglophones by reporting how much income varied for each pair. Independent t-tests were also carried out to compare the employment income of bilingual women and men with those of Anglophones and Francophones. The independent t-tests were carried out on average employment income and its natural log. The natural log transformation was used to decrease variability and bring the skewed data closer to a normal distribution. The t-tests identified instances in which there are large income disparities between gender and language group. The analysis, however, does not account for the importance of gender and language group relative to other social and demographic factors that could influence employment income attainment in the federal public service.

To accomplish this step in the analysis, linear regression analysis was used, as the data for the dependent variable (employment income) is measured at a ratio level and is normally distributed when a natural log transformation of the values is used. Natural log transformations reduce skewness and this technique is often appropriate for income variables; however, it cannot be applied to zero or negative values (Laerd Statistics, 2018). Consequently, all negative values were removed from the data and set to 1 in a new variable for employment income before transforming the data (Laerd Statistics, 2018). Since income values vary, transforming the data helps the model deal with wide data ranges (Laerd Statistics, 2018).

3.4 Summary and Conclusion

Different methods enable this thesis to investigate various dimensions of women and men's employment status in the federal government. One of the important considerations in structuring the analysis has been to evaluate the significance of gender and language status relative to other social and demographic variables in influencing differences in income or type of employment between women and men and Francophones and Anglophones. This study describes differences between groups, but it also goes a step further by trying to evaluate whether the significance of these variables remains when other factors are considered. This analysis is only able to give limited insight into complex relationships between where particular language groups live and the changing characteristics of office location in the federal bureaucracy. To examine these important issues related to the nature of work would require qualitative research methods, and this remains a rich research avenue to pursue in future studies.

In order to contextualize the analyses and discussions in this thesis project, the next chapter provides an overview of Ottawa-Gatineau's social, economic, and linguistic geography. A key aspect of Chapter 4 emphasizes the significance of work in the federal government for the region's service-based economy, and the importance of French and English language communities for its workforce. This chapter is foundational for later stages of the study as it provides an overview of women and men's employment in federal public service in comparison to other major industrial sectors, and underscores dissimilarities between official language communities.

CHAPTER 4

Setting the Context: The Geography of Language and Work in Ottawa-Gatineau

4.1 Introduction

Chapter 4 describes aspects of Ottawa-Gatineau's social, economic, and linguistic geography to provide necessary context for analysis of the ways in which language shapes women and men's employment status in the region's federal public service. To situate this research, this chapter begins by providing a geographic reference point, outlining the cartographic boundaries of the Ottawa-Gatineau metropolitan area and identifying important districts within those boundaries. Next, it describes Ottawa-Gatineau's service-based economy and Ottawa's transformation into a government town in order to highlight the significance of federal government employment in the region. The chapter then moves on to consider the federal government's bilingualism policies, especially in relation to the region's social and linguistic character. The geographies of French, English, and bilingual language communities and their significance to the everyday lives of Ottawa and Gatineau residents are discussed. The linguistic composition of the federal workforce is compared with that of other industrial sectors, thereby illustrating the importance of bilingualism in federal workplaces. This is noteworthy because, as one of the largest employers, the federal government plays an important role in shaping the overall characteristics of the regional workforce through its decisions about who to hire.

After establishing the distinct language practices of Ottawa-Gatineau's federal public service and the issues around language requirements in the workplace, the chapter moves on to address the uneven distribution of federal public servants in offices across Ottawa-Gatineau in order to identify key employment nodes. In this way, the geographic mismatch between home and work for many federal public servants can be illustrated, and provide context for a discussion

about the National Capital Commission's plan to decentralize and consolidate federal offices to more suburban areas in Ottawa. This chapter concludes with an overview of the different challenges associated with the journey from home to workplaces located in Ottawa's downtown core and suburbs.

By addressing these topics, Chapter 4 provides critical information to understand relevant characteristics of Ottawa-Gatineau's service-based economy, and those of the main employer, the federal government. It also underscores the importance of bilingualism for work in the public service, and highlights the uneven residential distribution of official language communities across the region. Ultimately, this chapter emphasizes the social geographic context for interpretation of the work among individuals in Ottawa-Gatineau's full-time workforce, and provides a rationale for the analysis of gender and language intersections with respect to women's employment in the federal public service.

4.2 Geography of Ottawa-Gatineau

This thesis project is limited to the Ottawa-Gatineau census metropolitan area (CMA) and its full-time workforce; therefore, it is important to understand the geographic boundaries of the region and relevant areas within those boundaries. This research focuses on Ottawa, as it is a major hub of federal government employment. Ottawa is the capital of Canada and is located in southeastern Ontario, bordering the south bank of the Ottawa River across from Gatineau, Quebec (Government of Canada, 2014). In 2001, amalgamation brought 11 Ontario municipalities and the regional government under the authority of the City of Ottawa (Taylor, 2019). This included suburban areas such as Nepean, Kanata, Gloucester, and Cumberland (Taylor, 2019).

For this chapter, Ottawa's downtown business precinct (census tract 5050048.00) and suburban Heron Park (census tract 5050004.00) are of particular interest. These census tracts represent important hubs of federal government employment in the downtown core and Ottawa's suburbs. The downtown business precinct is dominated by office functions, with the majority of office space dedicated to meeting the needs of the federal government (City of Ottawa, n.d.). This area is bounded by Lyon, Gloucester, Elgin, and Wellington streets (Statistics Canada, 2016; City of Ottawa, n.d.) (Figure 1). In Ottawa's suburbs, Heron Park is located south of the Rideau River, and is bounded by Bank Street to the east, Walkley Road to the south, and Sawmill Creek to the west (Heron Park, 2020). Although a number of different suburban office nodes could be examined, Heron Park is used as a suburban "case study" primarily because it is located relatively close to the downtown core, a number of federal offices have been located in the area for decades, and it is well served by Ottawa's public transit system (Keshen, 2001; Bellamy, 2001). These census tracts become especially important later in this chapter, as the commuting patterns of federal public servants from home to workplaces in Ottawa's downtown core and suburbs are compared.

Across the Ottawa River, the Hull sector of Gatineau serves as a major hub for federal government employment in the National Capital Region (NCR). The Hull sector is part of the larger City of Gatineau, which is organized into the sectors of Aylmer, Buckingham, Gatineau, Hull, and Masson-Angers (Ville de Gatineau, 2019) (Figure 1). Aylmer and Hull are located west of the Gatineau River, while Gatineau, Masson-Angers, and Buckingham are situated eastward (Ville de Gatineau, 2019).

Since 1969, Ottawa, Gatineau, and the surrounding urban and rural communities, have been formally recognized as Canada's NCR (Statistics Canada, 2008). The Ottawa-Gatineau

CMA includes the urban cores of both Ottawa and Gatineau and their surrounding municipalities (Figure 2). In Ontario, Ottawa accounts for most of the CMA, augmented by Russell and Clarence-Rockland in the east (Government of Canada, 2014). In Quebec, the CMA consists of the census subdivisions (municipalities) of Gatineau, which is the most urban and central of all the municipalities, as well as and Bowman, Cantley, Chelsea, Denholm, Gatineau, L'Ange-Gardien, La Pêche, Mayo, Notre-Dame-de-la-Salette, Pontiac, Val-des-Bois, and Val-des-Monts (Government of Canada, 2014). Together, these areas form the Ottawa-Gatineau CMA.

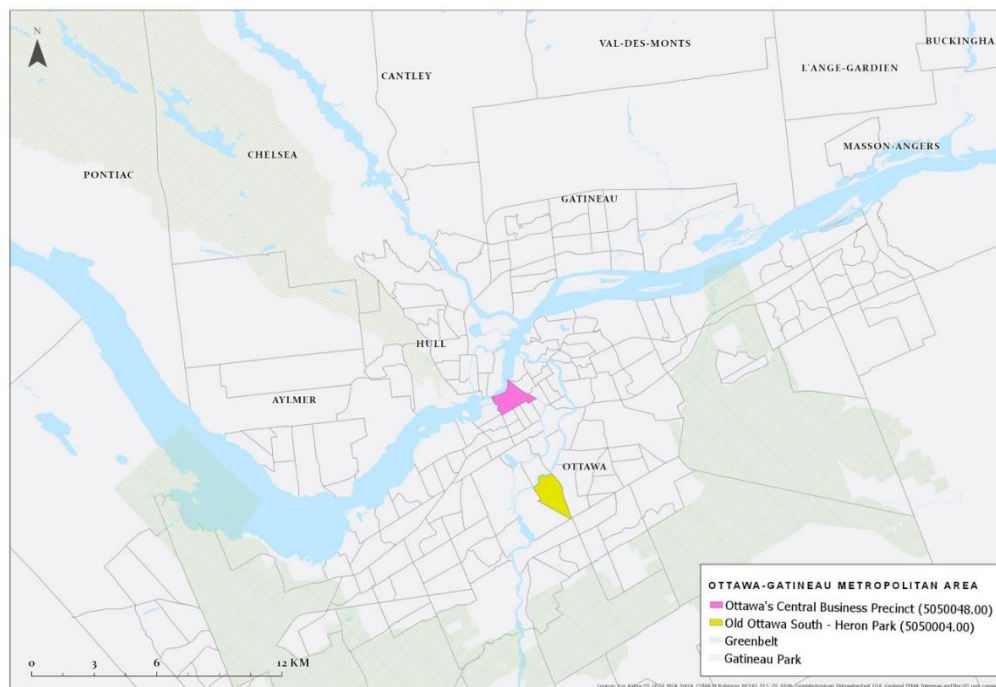


Figure 1 Sectors of Gatineau and census tracts in Heron Park and downtown Ottawa
Source: National Capital Commission, City of Ottawa, & Natural Resources Canada, 2010; National Capital Commission, 2013; Statistics Canada, 2011; Statistics Canada, 2019b.

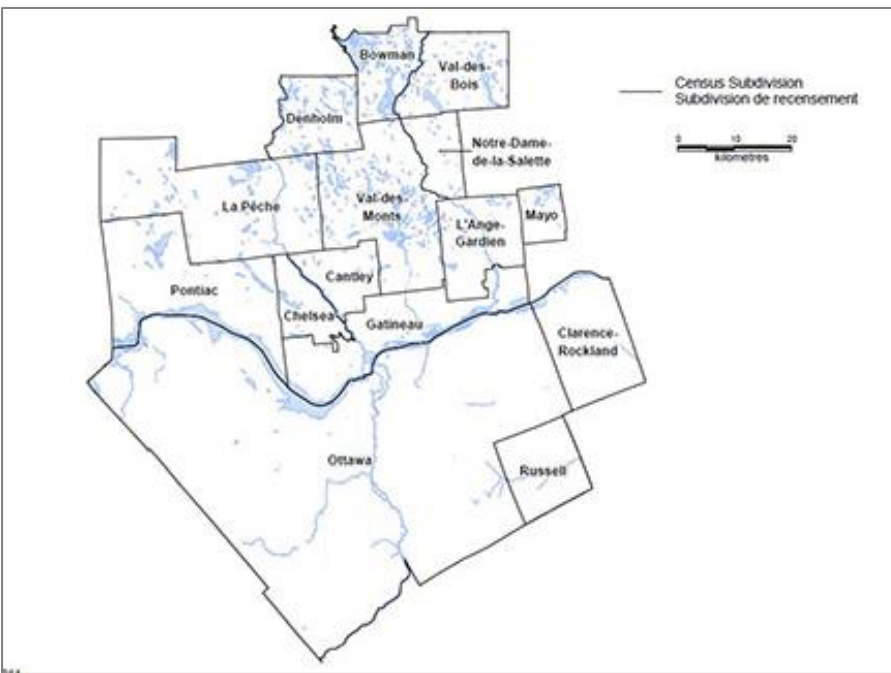


Figure 2 Census subdivisions in the Ottawa-Gatineau metropolitan area (Government of Canada, 2014)

4.3 Ottawa-Gatineau: A Service-Based Economy

To understand Ottawa-Gatineau's economy, this section considers how the type of work available in the region has changed over time, beginning with the history of work in Canada's national capital. Ottawa is primarily a service-based economy, dominated by employment in the federal government sector (Andrew, Chiasson, & Ray, 2011). The city has long been known as a government town, but World War Two (WWII) marked an important turning point for Ottawa's national significance and the type of work available in the city (Andrew et al., 2011; Taylor, 2019). This is largely due to the creation of an extensive bureaucracy to administer the war effort (Andrew et al., 2011), which resulted in the federal government becoming the single largest employer in Ottawa by 1940 (Andrew et al., 2011). Equally important, during this period thousands of women came to Ottawa to work in relatively low-pay public service jobs. Since WWII, women have been an important part of the labour force (Andrew et al., 2011). After WWII, the federal bureaucracy continued to grow, and more employees were needed to support

the government's new commitment to social welfare and its Keynesian management of the economy (Taylor, 2019). The strength of the federal government helped offset the decline in the lumber industry (Andrew et al., 2011; Taylor, 2019), whereas across the Ottawa River in Gatineau, timber, pulp, and paper manufacturing remained at the core of the economy until well after WWII (Andrew et al., 2011). It was only in the 1970s that timber operations and pulp and paper mills that previously dominated the centre of the city moved to the rural periphery or another region entirely (Andrew, et al., 2011, p. 203). From the 1970s onward, Gatineau began to be incorporated into Ottawa's service-based economy (Andrew et al., 2011; Taylor, 2019).

Ottawa's high-tech industrial sector began to play an important role in the local economy in the 1960s (Andrew, et al., 2011). The National Research Council and Defence Research Board, along with the two local universities (University of Ottawa and Carleton University), helped grow Ottawa's high-tech sector during the second half of the twentieth century (Taylor, 2019). This sector emerged in 1961, and was supported by the decision of Bell Northern Research (which later became Nortel) to place its operations in Ottawa (Taylor, 2019). Other companies, such as Corel and JDS Uniphase, entered the scene in the 1980s and onwards, and helped Ottawa become known as "Silicon Valley North" (Taylor, 2019). Despite challenges at the beginning of the twenty-first century (i.e. Nortel filing for bankruptcy in 2009), Ottawa's high-tech sector continues to play a key role in the regional economy (Taylor, 2019).

The federal government's core public administration has evolved in response to technological advances in the 1990s, new challenges, and an increasingly demanding environment (Taylor, 2019). In particular, the federal government's decisions about who to hire has shaped the characteristics of its workforce. In the 1990s, the federal government workforce was largely comprised of clerical and operational employees, but in the decades following,

increasing numbers of employees in the core public administration undertook more knowledge-intensive work (Government of Canada, 2018c). This work requires employees to be highly skilled, with their expertise honed through a combination of university-level education, specialized training, and job experience in order to work effectively (Government of Canada, 2018b). Unsurprisingly, the five largest knowledge-intensive occupational groups¹⁴ in the core public administration have grown dramatically, from 22.6% in 1990 to 41.6% in 2016 (Government of Canada, 2018c).

With 41.5% of the federal public service located in the NCR, this sector is able to provide many people with relatively secure and well-paid employment (City of Ottawa, 2019). The strength of the federal government sector means relatively stable unemployment levels for the region, as well as a workforce that has relatively high incomes and education levels compared to other major Canadian cities (City of Ottawa, 2019). For example, in 2015, the Ottawa-Gatineau CMA had the sixth highest median household income in Canada at \$82,053 annually (Statistics Canada, 2019c).¹⁵ However, this is not the only way that the Government of Canada has moulded the economic, social, and linguistic characteristics of the NCR and its workforce.

4.4 Bilingualism in the National Capital Region

For many decades, the Government of Canada has contributed to shaping the region's social and linguistic geography (Government of Canada, 2018d). The government continues to support the vitality of francophone communities and encourages second official language

¹⁴ Within the federal government, there is a number of occupational groups that are knowledge-intensive. The five largest include Administrative Services (AS), Program Administration (PM), Computer Systems (CS), Economics and Social Science Services (EC), and Executive (EX) (Government of Canada, 2018c).

¹⁵ In the 2015 reference year, Gatineau residents had a total annual median household income of \$70,857 and Ottawa residents had \$86,451 before taxes. Ottawa residents earned more than other major cities such as Toronto (\$78,373), Montreal (\$61,790), and Vancouver (\$72,662) (Statistics Canada, 2019c).

learning in an effort to build a more bilingual Canada (Government of Canada, 2018d). As part of these efforts, the federal government has appointed bilingual judges to the Supreme Court, and has prioritized the immigration of French-speakers to Canada (Government of Canada, 2018d). Furthermore, language rights for all Canadians are enshrined in law under the *Canadian Charter of Rights and Freedoms* and the *Official Languages Act* (Government of Canada, 2018d). This ensures that both French and English languages hold equal status, rights, and privileges regarding their use in federal institutions (Office of the Commissioner of Official Languages, 2018). It also supports the development of French and English minority language communities, and furthers the equal status and use of French and English in Canada (Office of the Commissioner of Official Languages, 2018).

Specific to federal institutions, the *Action Plan for Official Languages (2003)* supports second-language education and language services through permanent funding of programs and initiatives that are used by government departments and agencies (Government of Canada, 2018d). More recently, the *Action Plan for Official Languages 2018-2023* recommits to strengthening the equal status of French and English in Canada (Government of Canada, 2018d). Through this initiative, the federal government has allocated \$2.5 million over five years (beginning in 2018) to implement initiatives that enhance the bilingual character of the NCR (Government of Canada, 2018d).

The Province of Ontario also passed legislation recognizing the equal rights, status, and privileges of French and English languages in Ottawa (Government of Canada, 2018d). This legislation reflects a common goal to make Canada's capital bilingual and supports Ottawa's by-law and languages policy to develop services in the French minority language (Government of Canada, 2018d). Through these actions, the federal government, the Province of Ontario, and the

City of Ottawa encourage the equal status of French and English languages in Ottawa-Gatineau. Nevertheless, the current social and linguistic geography reveals an uneven distribution of French and English language communities across the region.

4.4.1 Residential Location of Official Language Communities

French and English are not spoken equally in the homes of Ottawa-Gatineau's full-time workforce. There is a large concentration of English-speakers (76%) in Ottawa, whereas French-speakers comprise the vast majority in Gatineau (65%) (Table 2). The anglophone population is dispersed throughout Ottawa, but they are a minority in Gatineau (Figure 3). At the same time, Francophones are largely concentrated in Gatineau and the east-end of Ottawa in areas such as Vanier, Orleans, and Cumberland (Figure 4). The bilingual population is scattered across Ottawa-Gatineau, with strong concentrations in the Aylmer and Plateau sectors of Gatineau, and in the east-end of Ottawa (Figure 5). In this respect, it is worthwhile to note that francophone and bilingual residents tend to cluster in similar areas of Ottawa.

Table 2 French, English, and bilingual full-time workforce in the cities of Ottawa and Gatineau (Home Language)

CMA Part	Home language				Total
	English	French	Bilingual	Other language	
Ottawa	297000	27455	51405	13465	389,325
	76%	7%	13%	3%	
Gatineau	16135	85420	28365	2240	132,155
	12%	65%	21%	2%	

Source: Population Census, 2016.

This may, in part, be due to the fact that choices about where to live are influenced to some degree by the location of people who speak the same language and where services are located, such as schools and health care (Andrew et al., 2011). This is especially true among the French linguistic minority who have more constrained residential options in Ottawa if they wish to live near French services or others who share their language and culture. Likewise, it is

interesting to note that the clustering of official language communities in Ottawa becomes more pronounced when investigating the residential location of federal public servants.

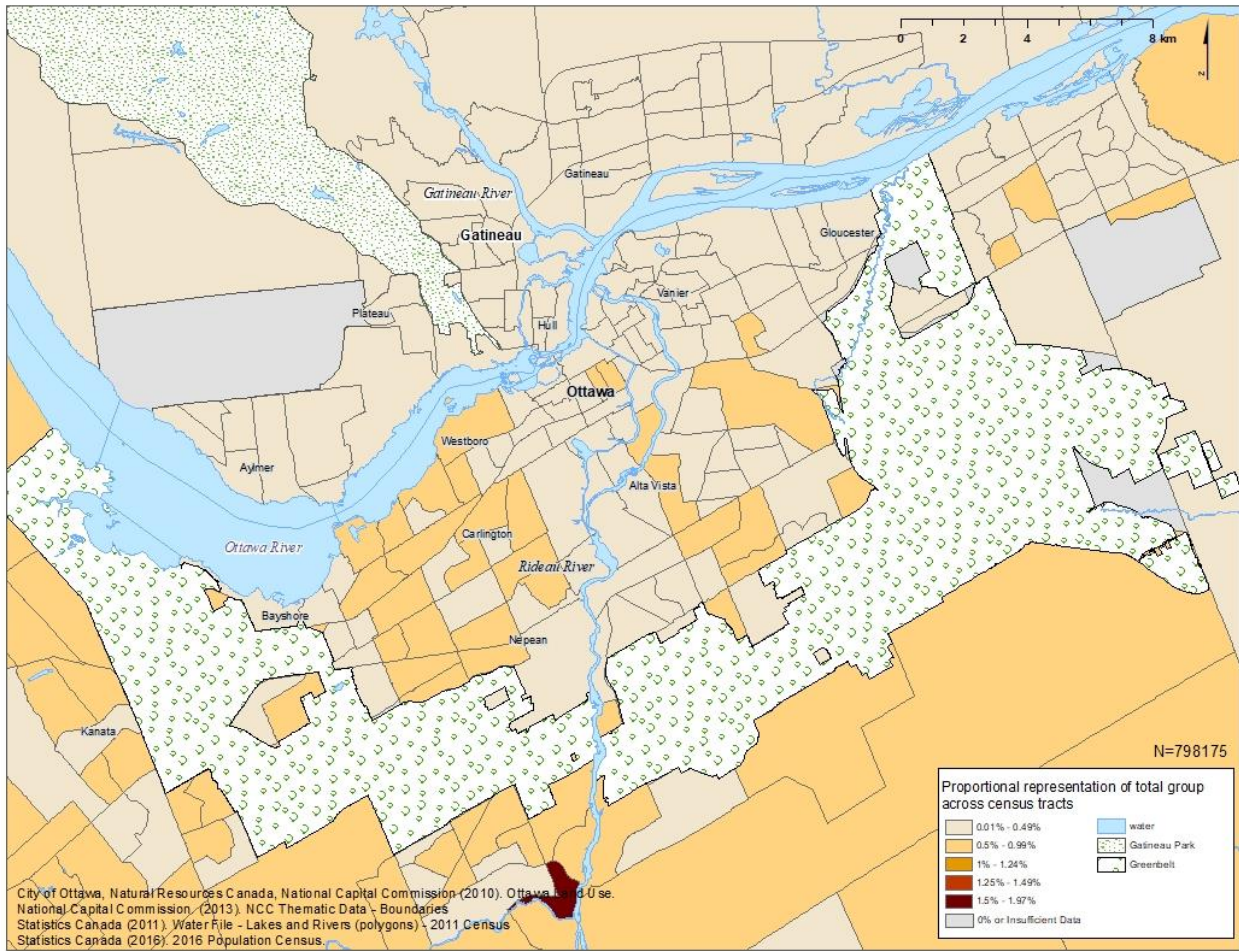


Figure 3 Residential distribution of the anglophone full-time workforce across the Ottawa-Gatineau CMA

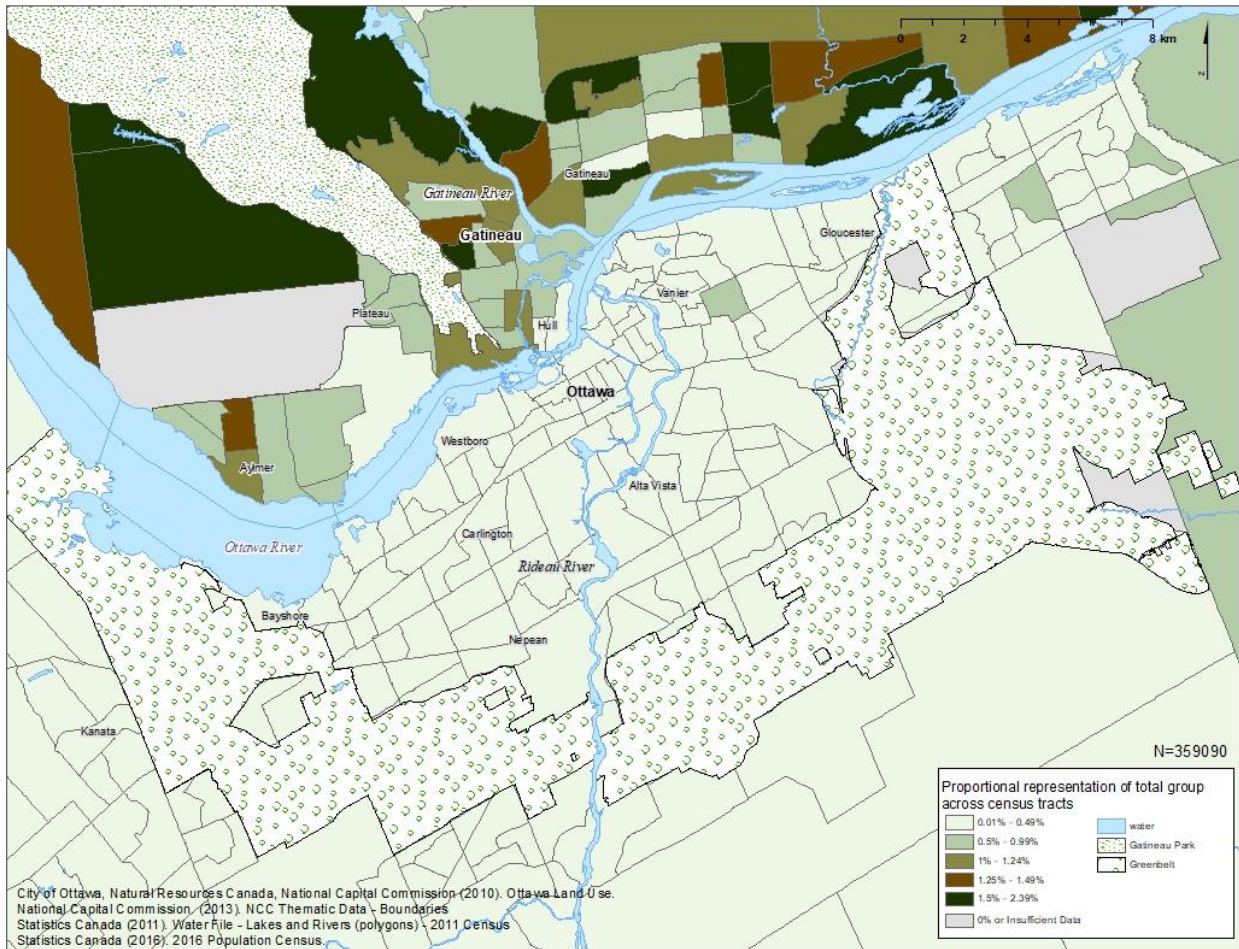


Figure 4 Residential distribution of the francophone full-time workforce across the Ottawa-Gatineau CMA

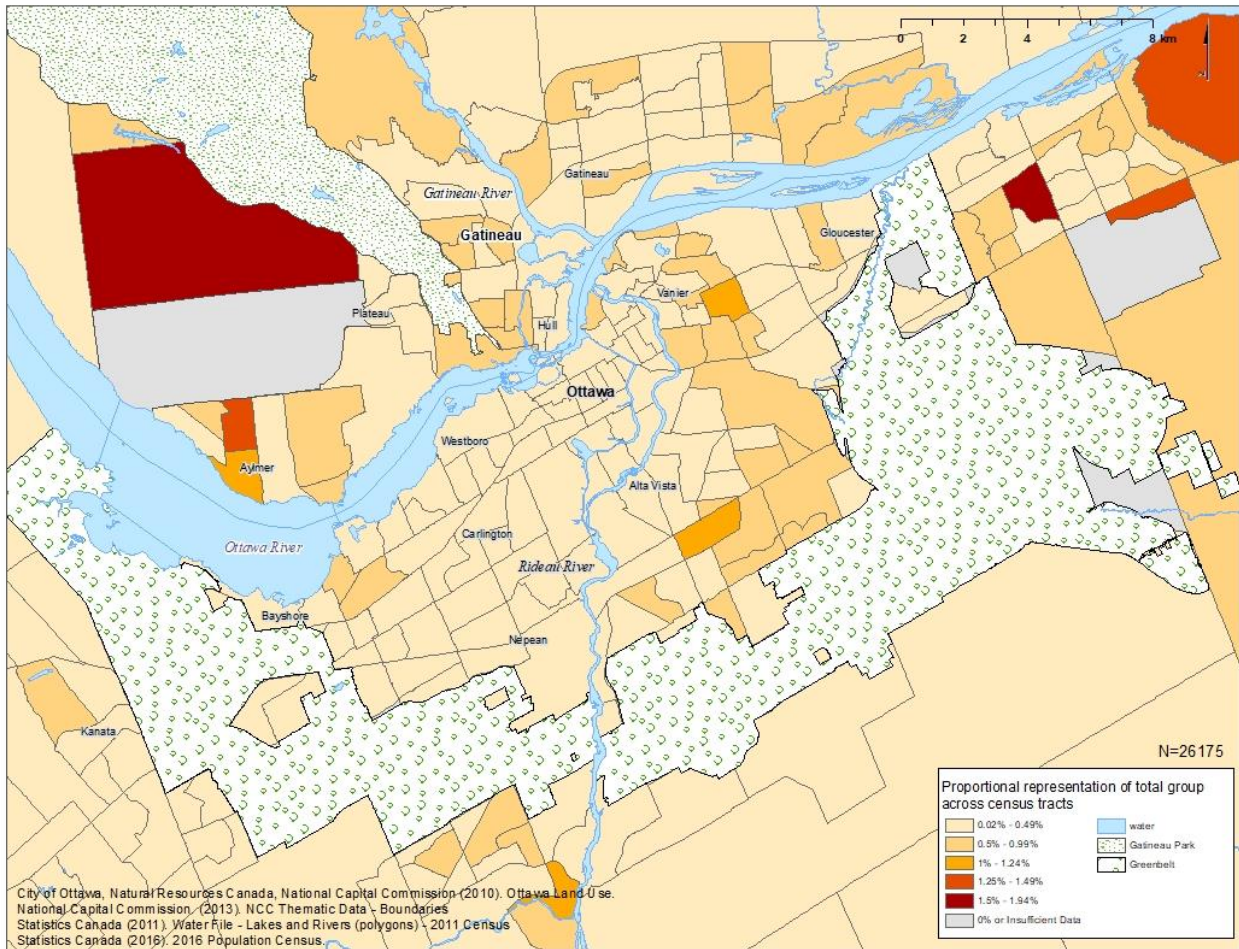


Figure 5 Residential distribution of the bilingual full-time workforce across the Ottawa-Gatineau CMA

4.4.2 Residential Location of Federal Government Workers

The residential distribution of official language communities in the federal government sector is similar to that of the overall workforce. Anglophones are dispersed across Ottawa, but are largely concentrated in the west-end of the city (Figures 6 and 7). The Rideau River is an important dividing point, with Anglophones strongly situated on the west side of the River and Francophones concentrated to the east. Similarly, the Ottawa River acts as a key partition between the bulk of the francophone population in Gatineau and the large anglophone population in Ottawa. Here it is important to note that there are relatively low concentrations of Anglophones living in Gatineau (Figures 6 and 7), the majority of whom are concentrated on the

periphery of Gatineau. In contrast, Francophones are concentrated throughout Gatineau and the east-end of Ottawa (Figures 8 and 9). Like the broader language community, bilingual federal public servants mainly reside in areas that overlap with Francophones (Figures 10 and 11). The clustering of language communities suggests that federal public servants live in the same areas as the larger language community, yet population sizes vary greatly.

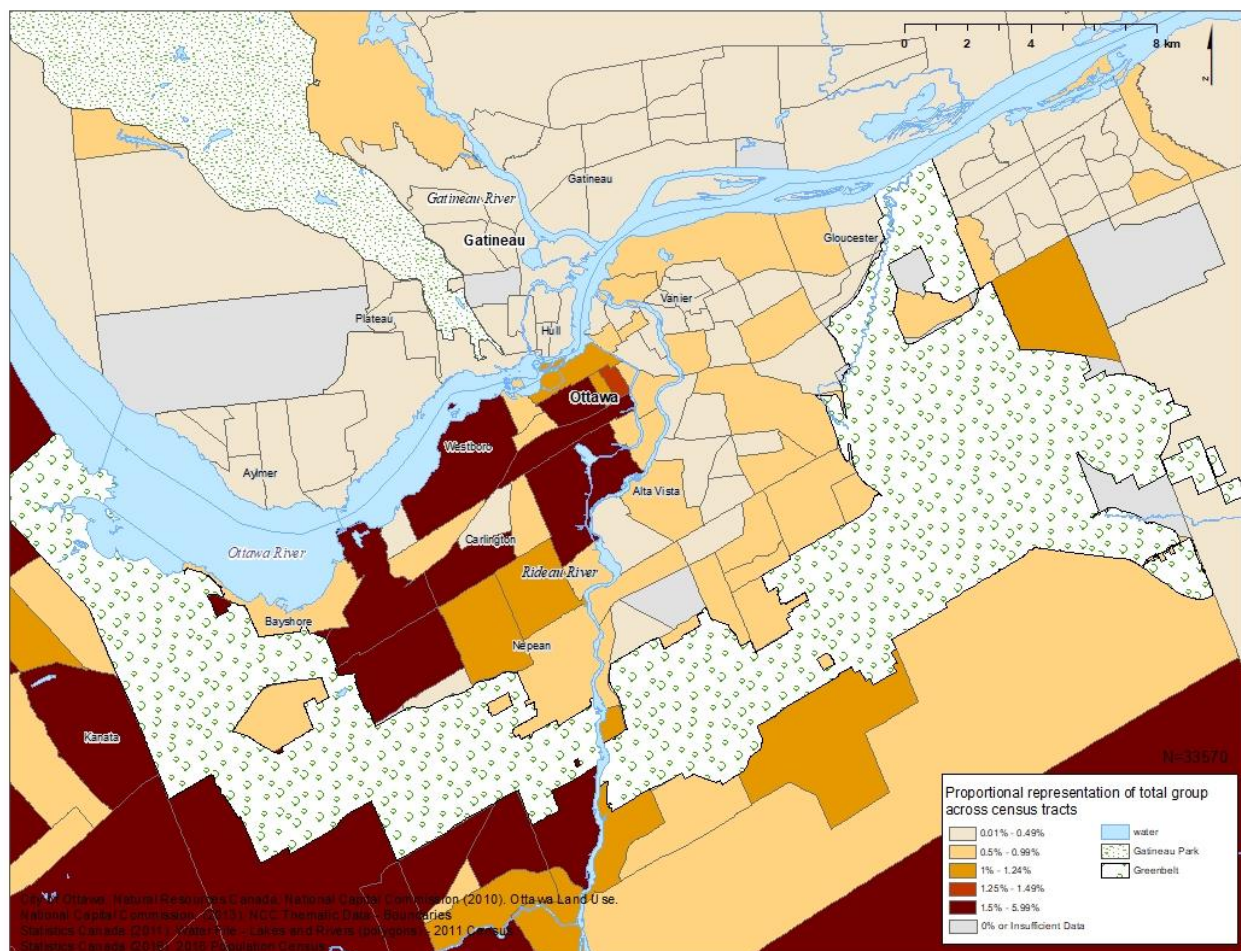


Figure 6 Residential distribution of anglophone women employed by the federal government across the Ottawa-Gatineau CMA

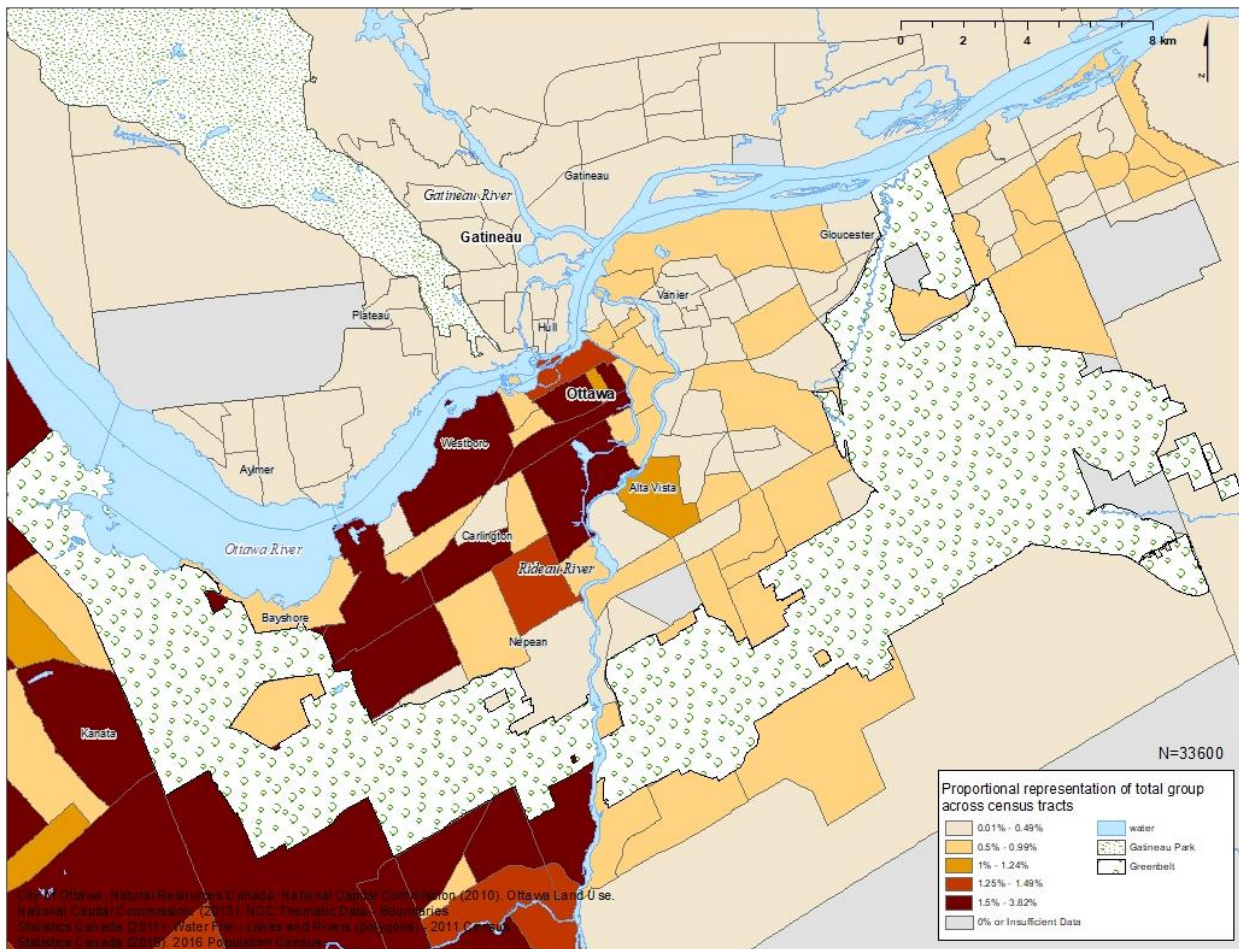


Figure 7 Residential distribution of anglophone men employed by the federal government across the Ottawa-Gatineau CMA

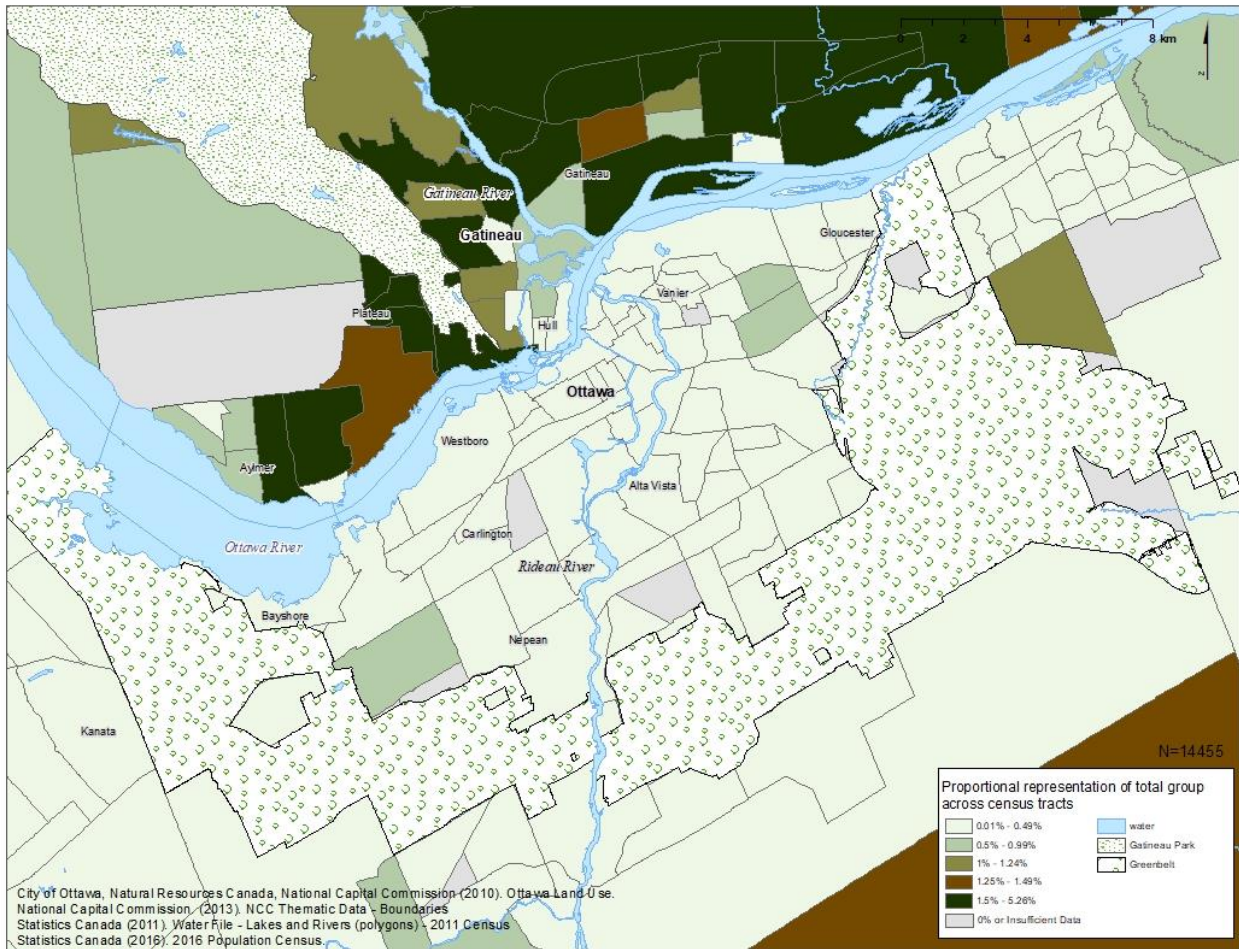


Figure 8 Residential distribution of francophone women employed by the federal government across the Ottawa-Gatineau CMA

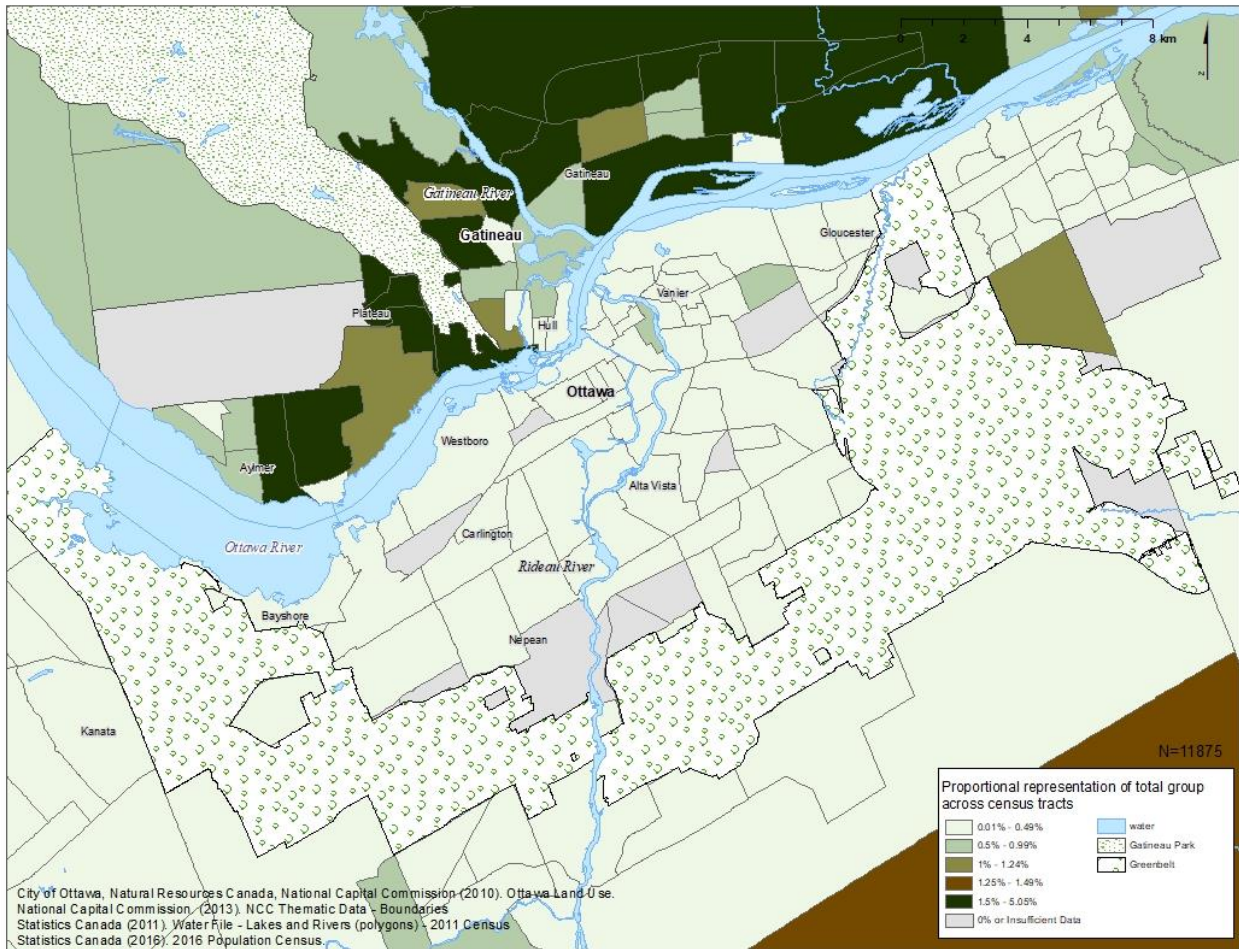


Figure 9 Residential distribution of francophone men employed by the federal government across the Ottawa-Gatineau CMA

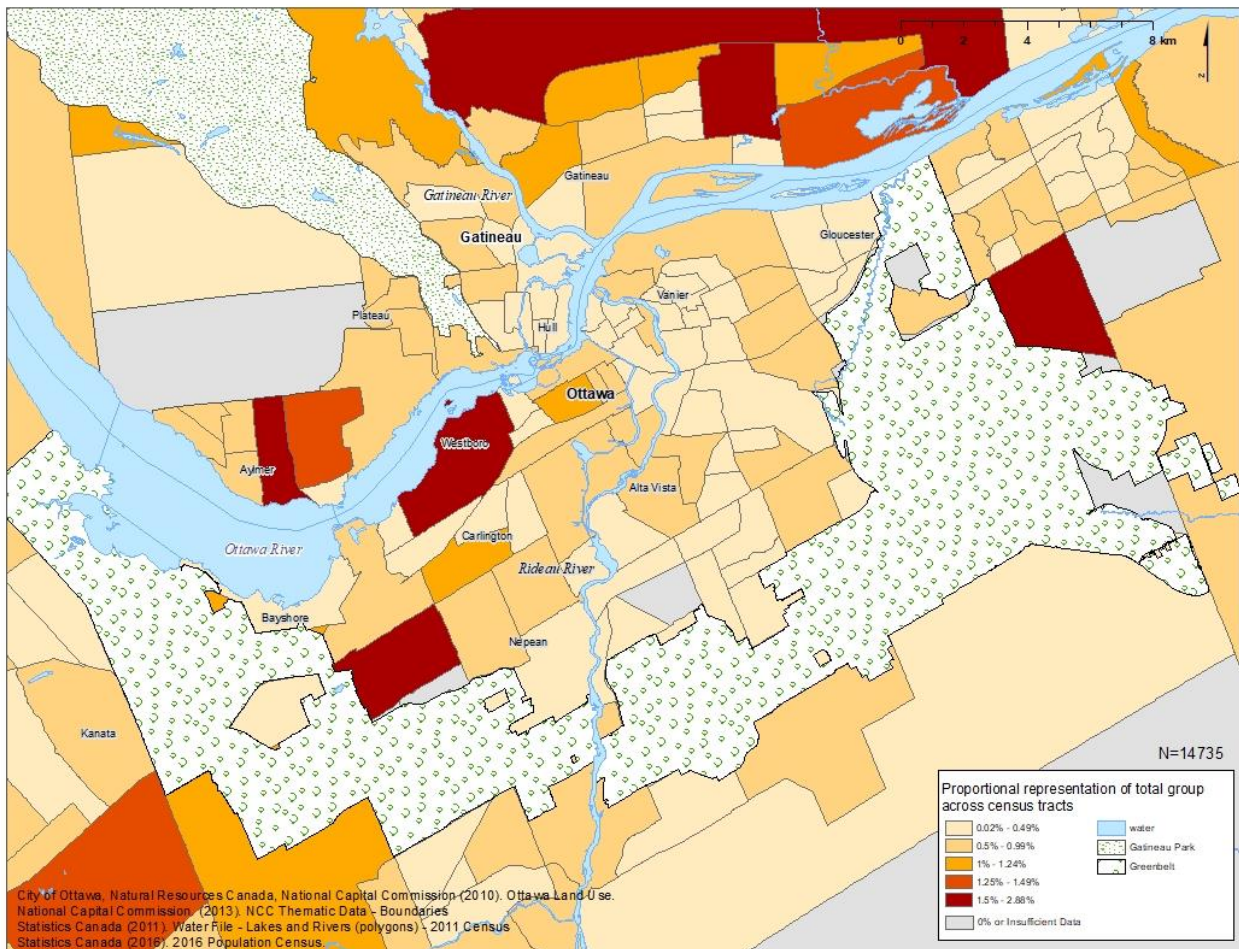


Figure 10 Residential distribution of bilingual women employed by the federal government across the Ottawa-Gatineau CMA

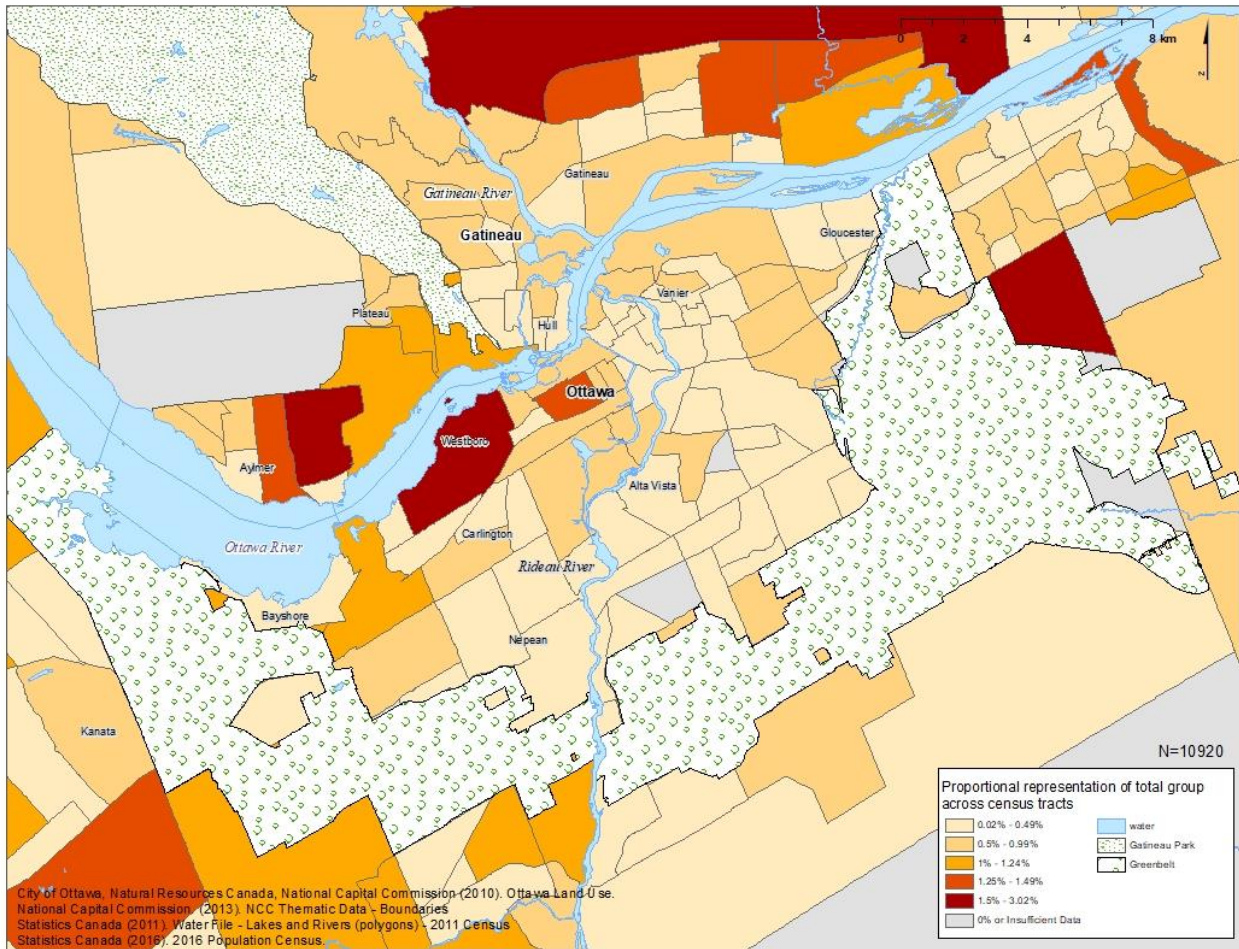


Figure 11 Residential distribution of bilingual men employed by the federal government across the Ottawa-Gatineau CMA

As a linguistic majority, the sheer number of Anglophones living in Ottawa overshadows the francophone and bilingual populations. Ottawa has a much larger population than Gatineau, which could explain why there is a greater share of anglophone women (67.8%) and men (72.8%) working for the federal government than francophone or bilingual workers (Table 3) (Statistics Canada, 2016). Yet the fact that a greater share of bilingual women (29.2%) and men (26.4%) working in the federal government live in Gatineau than Ottawa (21.3% and 17.1% respectively) cannot be overlooked (Statistics Canada, 2016). In this instance, Gatineau's larger share of bilingual residents may be due to a greater expectation for Francophones to speak English than for Anglophones to speak French in society at large (Government of Canada, 2016).

Table 3 Residential distribution of federal public servants in Ottawa and Gatineau by home language and gender

Gender	CMA Part	Home Language				
		French	Bilingual	English	Other Language	Total
Women	Ottawa	9.0%	21.3%	67.8%	2.0%	46,490
	Gatineau	59.3%	29.2%	10.3%	1.1%	19,670
	CMA	24.0%	23.6%	50.7%	1.7%	66,160
Men	Ottawa	8.0%	17.1%	72.8%	2.1%	45,145
	Gatineau	59.5%	26.4%	12.6%	1.4%	15,175
	CMA	20.9%	19.5%	57.6%	2.0%	60,315
Total	Ottawa	8.5%	19.2%	70.2%	2.0%	91,635
	Gatineau	59.4%	28.0%	11.3%	1.2%	34,845
	CMA	22.5%	21.6%	54.0%	1.8%	126,480

Source: Population Census, 2016

Furthermore, the residential location of Ottawa-Gatineau's federal workers suggests that the distribution of official language communities in the region is not random, but influenced by previous residential decisions and the location of the larger language community and associated services. This has important consequences for work in the federal government in terms of the distance and time it takes to reach workplaces, and the availability of suitable employment opportunities near to where people live. In this respect, residential location can serve to limit an individual's employment search area and corresponding job opportunities, especially when available jobs do not align with workers' linguistic profiles. This is to the detriment of the francophone community for two reasons: 1. Francophones are geographically further away than Anglophones from key hubs of federal government employment in Ottawa's suburbs, and 2. unilingual Francophones have fewer job opportunities that match their linguistic profiles than Anglophone or bilingual residents.

4.5 Language Demands in the Workplace

The human capital characteristics sought by the federal government do influence who can work in the federal bureaucracy. This is especially true with respect to bilingualism policies in the federal government. Over 50 years ago, the *Royal Commission on Bilingualism and*

Biculturalism laid the foundation for what would become the Government of Canada’s policy of official bilingualism (Government of Canada, 2016). The *Official Languages Act*¹⁶ gave statutory recognition to Canada’s linguistic duality (Government of Canada, 2016), but the country’s bilingual status did not necessarily reflect the population. In light of this, the federal government pursued efforts to create and maintain bilingual institutions so that services could be provided to the Canadian population in both official languages (Government of Canada, 2016). This requires a significant commitment to institutional bilingualism to maintain and provide service to both official language groups (Government of Canada, 2016). The fact that many jobs are now classified ‘bilingual imperative’ has contributed to shaping the knowledge, skills, and assets sought when hiring into the federal public service (Andrew et al., 2011, p. 203) (Table 4).

Table 4 Language requirements of positions in the National Capital Region’s public administration (2015-2016 fiscal year)¹⁷

Geography	Bilingual	English essential	French essential	English or French essential	Total
NCR	54,704	20,124	157	5,411	80,475
	68.0%	25.0%	0.2%	6.7%	100%

(Treasury Board Secretariat, 2017, p. 42)

In Canada, positions in the federal government require a high level of proficiency in French, English, or both French and English languages (Government of Canada, 2017a). Unilingual positions are designated as “English essential”, “French essential”, or “English or French essential” (Government of Canada, 2017a). When knowledge of both languages is required, the position is designated “bilingual” (Government of Canada, 2017a). A high level of

¹⁶ The *Official Languages Act* designates a number of regions in Canada where federal employees have the right to work in the official language of their choice and these institutions must ensure that their employees exercise this right (Government of Canada, 2016). These regions include the National Capital Region, all of New Brunswick, parts of Northern and Eastern Ontario, the Montreal area, and, in the rest of Quebec, parts of the Eastern Townships, Gaspé and West Quebec (Government of Canada, 1995).

¹⁷ Language requirements are for the National Capital Region’s core public administration. The core public administration refers to more than 80 departments and agencies, all of which are employed by the Treasury Board (Treasury Board Secretariat, 2017).

linguistic proficiency in both languages is especially important in the NCR as 68.0% of jobs are designated bilingual. Only a small proportion of jobs are designated “English essential” (25.0%) and even fewer are “French essential” (0.2%) (Table 4). At work, managers are responsible for determining the language requirements of positions, which is based on an assessment of the duties and responsibilities associated with a particular job (Government of Canada, 2017a). If the position necessitates the use of both languages, the manager must also determine the necessary proficiency level¹⁸ in French and English in “reading”, “writing”, and “oral interaction” (Government of Canada, 2017a).

Since the end of the nineteenth century, the federal government has rewarded eligible employees with a bonus for being able to read and write in both French and English (Government of Canada, 1995). Now these bonuses are governed by the *Bilingual Bonus Directive*, an \$800 yearly supplement to an employee’s regular salary (Government of Canada, 1995). This bonus partially explains why there is a greater share of bilingual workers in the federal government compared to other sectors in Ottawa-Gatineau. For example, the federal government employs nearly two times the share of bilingual workers compared to similar knowledge-intensive industries such as the FIRE¹⁹ and professional, scientific, and technology sector (Table 5). Furthermore, the fact that there is a greater share of bilingual women (25%) than men (20%) could indicate there is more incentive for women to maintain a bilingual language profile or preferential hiring of unilingual men. In this instance, a high level of proficiency in both languages may be an advantage for women during the hiring process because

¹⁸ The proficiency levels for each skill are: A (beginner), B (intermediate), and C (advanced) (Government of Canada, 2017a).

¹⁹ Finance, Insurance, and Real Estate

the majority of jobs in the NCR require employees to be bilingual. In this way, the effort it takes to become bilingual may be rewarded with access to a larger potential pool of jobs.

In the literature, knowledge of an additional language has been linked to greater earnings due to its actual value in the workplace, or its perceived value in hiring practices (Christofides & Swindinsky, 2010). In this respect, official languages policies and gender affirmative hiring practices enable the federal government to influence who is hired. Since the 1970s, there has been an increase in the number of women and Francophones employed by the federal government, (Employment and Social Development Canada, 2018). This is complemented by the federal government's efforts to create a more bilingual workforce through specific language requirements for individual jobs.

Today there are many Francophones working in Ottawa-Gatineau's federal government sector, many of whom are women. It is likely that many of these francophone women occupy bilingual positions, as in a minority context Francophones are likely to speak and understand the majority language (i.e., English in Ottawa) (Christofides & Swindinsky, 2010; Government of Canada, 2016). Although only 0.2% of jobs are "French essential" and 6.7% are "French or English essential" (Table 4), francophone women account for 23% of women in the federal workforce (Table 5). In this regard, it is likely that many, if not most, Francophones and bilingual public servants are required to speak English in the office.

Table 5 Home language of women and men by industrial sector, Ottawa-Gatineau CMA

	Industrial Sector	Home language			Total
		English	French	Bilingual	
Women	Federal Government	53%	23%	25%	63,415
	Retail, Accommodation, and Food Services	68%	20%	12%	27,200
	FIRE and Professional, Scientific, Tech	75%	12%	13%	28,770
	Health	61%	26%	14%	30,985
	Other	61%	23%	16%	85,540
	Total	61%	22%	17%	235,920
Men	Federal Government	60%	20%	20%	57,835
	Retail, Accommodation, and Food Services	69%	19%	12%	33,450
	FIRE and Professional, Scientific, Tech	78%	10%	12%	36,155
	Health	62%	25%	13%	8,815
	Other	62%	23%	15%	123,660
	Total	65%	20%	15%	259,920

Source: Population Census, 2016.

English is the dominant language of work despite the sizable share of francophone and bilingual workers in the federal bureaucracy (Table 6). For example, 23% of women and 20% of men are Francophone (Table 5), yet only 14% of women and 9% of men reported speaking French regularly at work (Table 6). At the same time, less than half the share of bilingual women (25%) and men (20%) (Table 5) reported speaking French and English equally in the workplace (8% women and 7% men) (Table 6). These statistics suggest that it may be common for francophone and bilingual employees to speak English in the workplace if they need to communicate with their anglophone colleagues. In this respect, it is possible that the share of federal public servants using English at work is even greater, as French-speaking employees can usually manage conversational English but the same is not true for English-speakers (Government of Canada, 2016; Pavlenko, 2001).

Table 6 Language used at work by women and men by industrial sector, Ottawa-Gatineau CMA

Gender	Industrial Sector	Language at work			Total
		English	French	Bilingual	
Women	Federal Government	77%	14%	8%	63,415
	Retail, Accommodation, and Food Services	74%	21%	5%	27,200
	FIRE and Professional, Scientific, Tech	85%	11%	4%	28,775
	Health	70%	25%	5%	30,985
	Other Industries	69%	27%	5%	85,540
	All Industries	74%	21%	6%	235,920
Men	Federal Government	84%	9%	7%	57,835
	Retail, Accommodation, and Food Services	76%	19%	4%	33,450
	FIRE and Professional, Scientific, Tech	89%	7%	3%	36,155
	Health	72%	22%	5%	8,815
	Other Industries	74%	21%	5%	123,660
	All Industries	79%	16%	5%	259,920

Source: Population Census, 2016

Québec is the only province in Canada with a Francophone majority; but in Gatineau Francophones live in a regional context in which there is strong social and economic pressure to understand and speak English (Government of Canada, 2016). In this case, Francophones and Anglophones in Gatineau are more likely to be bilingual and retain this linguistic profile throughout their lifetime (Government of Canada, 2016), which could, in part, explain why there is a greater share of bilingual workers in Gatineau than in Ottawa (Table 3). The prevalent use of English in the workplace could also be partially explained by the fact that Ottawa has a much larger population than Gatineau. In this respect, the sheer number of Anglophones in the workforce could reduce the value and benefit associated with bilingualism in the workplace (Government of Canada, 2016). In addition, with so few jobs designated “French essential” (Table 4), only a small number of Francophones who cannot speak English would be hired into the federal government in the Ottawa-Gatineau region, whereas there are more unilingual “English essential” positions. As a result, Anglophones who cannot speak French are still able to access jobs that align with their linguistic competence.

Since the majority of jobs in Ottawa-Gatineau's federal public service are designated "bilingual", employees can benefit from on-the-job second language training (Government of Canada, 2008). This is especially true for "bilingual non-imperative" positions, which can be staffed with an individual who agrees to become bilingual through language training at the government's expense (Government of Canada, 2008). However, if the majority of the workforce uses English in their day-to-day work, it is likely that an employer would prioritize hiring individuals with a high degree of proficiency in English, as it would be easier for these employees to integrate into their prospective workplaces. It could also be argued that even though bilingual workers directly benefit from a bilingual bonus, Anglophones have easier access than Francophones to job opportunities that fit their language skills.

By examining language practices at home and in the workplace, it is clear that the challenges associated with obtaining employment in the federal bureaucracy are not borne equally amongst French, English, and bilingual individuals. Yet this is only one way that decisions made by the federal government shape the lives of its employees. It is clear that the federal government also plays a critical role in shaping the geography of work through decisions about where to build and lease office space.

4.6 The Geography of Federal Office Employment

Federal office space is unequally distributed across the NCR with 72% of offices located in Ottawa (Public Services and Procurement Canada, 2017). In Ottawa-Gatineau, the majority of federal office space is concentrated in Ottawa's downtown core and the Hull sector of Gatineau (Figure 12). Ottawa's suburban federal government employment is concentrated in six different areas of the city: Confederation Heights in the south-end; Kanata North, Merivale-Rideau Heights, Tunney's Pasture and Baseline/Woodroffe in the west-end; and Trainyards, Sheffield,

and Industrial Avenue in the east-end (Andrew et al., 2011, pp. 214-215). Heron Park, located near Alta Vista in Old Ottawa South, is another important and well-established, if somewhat smaller, hub for federal government employment in Ottawa's suburbs. All of these locations are relatively accessible using Ottawa's public transportation network, except for Merivale-Rideau Heights and Kanata North (Andrew et al., 2011, p. 218).

Meanwhile, Ottawa residents working in Gatineau are most likely to work at Place du Portage and Les Terrasses de la Chaudière office complexes in Hull, which is a major employment node directly across the Ottawa River from downtown Ottawa (Andrew et al., 2011, p. 220). The Terrasses de la Chaudière complex stretches across 1 Promenade du Portage, 15 and 25 Eddy, and 10 Wellington streets in Hull (Government of Canada, 2019b), and the area is easily accessed via OC Transpo and STO bus services, as well as private vehicles. This mixed-use complex accounts for roughly 4% of all federal government office space in the NCR, and approximately 25% of the requirement for federal government presence in Gatineau (Government of Canada, 2019b).

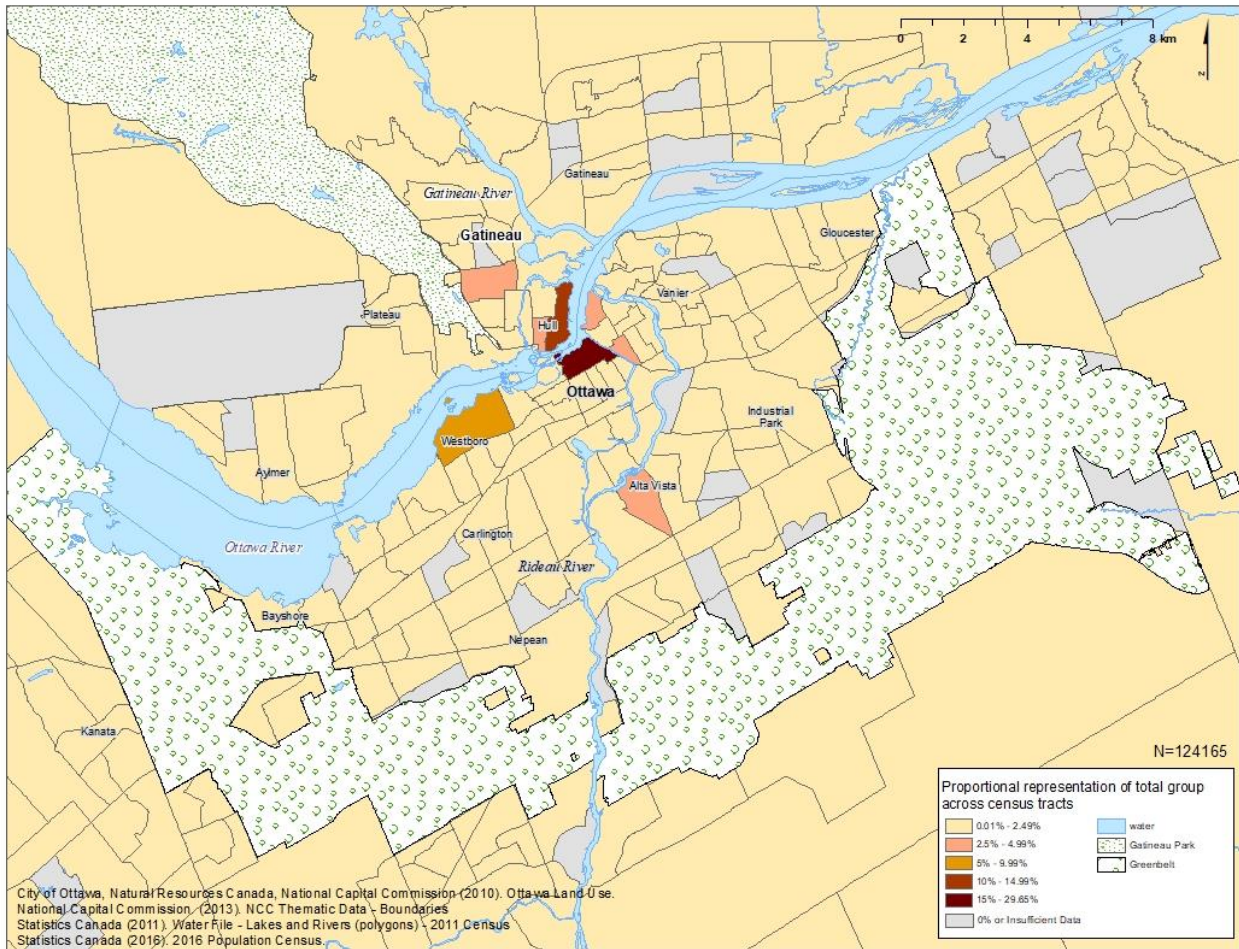


Figure 12 Distribution of federal government employees in federal workplaces across the Ottawa-Gatineau CMA

All government buildings are maintained by various levels of government²⁰ and adhere to municipal by-laws. During city planning processes, the National Capital Commission (NCC) helps in the development, conservation, and improvement of the NCR, which includes decisions about where to locate federal government offices (City of Ottawa, 2019). In the coming years, the NCC plans to add more mixed-use development (i.e. a combination of retail, business, and residential uses) at federal employment nodes such as Tunney's Pasture and Place du Portage (City of Ottawa, 2019). Development projects are typically in areas easily accessible via the

²⁰ Provincial and municipal governments have a shared responsibility for the long-term planning of their lands (Government of Ontario, 2019). Municipal governments can implement provincial plans through their official plans, zoning by-laws, and decisions on development applications (Government of Ontario, 2019).

rapid transit network in Ottawa (National Capital Commission, 2017, p.13). For example, the Ogilvie Road campus, which is home to the Canadian Security Intelligence Services and the Communications Security Establishment Canada is accessible via OC Transpo and has become increasingly important over the years (National Capital Commission, 2017). However, if the NCC decides to upgrade and consolidate federal government offices, it could move many jobs out of the downtown core to suburban districts in Ottawa where office space often is better quality and less expensive. However, moving the location of federal employment would mean a significant change for the commuting patterns of its regional workforce.

4.7 Complexities Associated with the Journey to Work

The Ottawa-Gatineau metropolitan area is highly integrated, with many people traversing the region's interprovincial bridges to get to work in Ottawa and Gatineau. Just over 20,000 people crossed the interprovincial bridges into Gatineau daily from Ottawa and the surrounding area (City of Ottawa, 2019), whereas almost 52,000 people crossed from Gatineau and the surrounding Quebec municipalities to work in Ottawa (City of Ottawa, 2019). With transit volumes expected to increase annually (City of Ottawa, 2019), the journey to work will become particularly arduous for those traveling from Gatineau to Ottawa, as this commuting population is more than double that from Ottawa to Gatineau. Worsening traffic conditions will no doubt complicate the lives of the federal government workforce, as this sector represents a large share of the region's daily commuting population (National Capital Commission, 2017, p.13).

As traffic volumes continue to increase, federal public servants living in Gatineau will spend more time on congested interprovincial bridges if they retain their jobs in Ottawa. The physical distance between home and work in conjunction with high traffic volumes will inevitably increase the amount of time Gatineau residents spend commuting to work. This is

especially true for Gatineau's large francophone population, who represent the majority of those needing to switch from Gatineau's STO public transit system to Ottawa's OC Transpo system to get to offices in Ottawa's suburbs.

Switching between public transit systems can be both tedious and unreliable, and would result in more time spent commuting to work. In contrast, Ottawa residents who are primarily Anglophone, are generally closer to key nodes of federal government employment and are able to use OC Transpo or the O-train to get to their workplaces without switching regional transit systems. With fewer commuters traveling from Ottawa to Gatineau, Ottawa residents also experience less congested interprovincial bridges. This disparity means that Francophones would inevitably experience higher time and financial costs associated with the journey to work. However, these challenges do not play out in the same way across all industrial sectors.

4.7.1 Time Spent Commuting to Work

To illustrate the different challenges associated with the journey to work, this section examines the time it takes to travel from home to workplaces in downtown Ottawa and Heron Park. As mentioned earlier, Heron Park is an illustrative suburban office node but it is important to recognize that there are other concentrations of federal employment further from the downtown core that may not be as well served by public transit. In addition to bus service, Heron Park has extensive parking for automobiles and is not as distant from Gatineau as suburban districts located further to the west and east. This section highlights the differential commuting patterns of French, English, and bilingual workers, paying particular attention to the federal public service. While the key focus of this analysis is on differences between official language communities across industrial sectors, it also examines whether commuting patterns of federal public servants align with findings in the literature about women's employment.

To start, it is clear that federal public servants spend more time on average commuting from home to work than workers in other industrial sectors (Table 7 and 8). This is true even when making comparisons to similar types of industries such the FIRE and the professional, scientific, and technology sector. Workers in the federal government sector, who enjoy relatively secure and well-paid jobs, engage in longer commutes in order to optimize residential amenities. The costs, however, are not borne equally by French and English language communities.

Table 7 Minutes women spent commuting from home to work in Ottawa-Gatineau by home language

Women	Home language	Industrial Sector	Commuting duration (minutes)							Total
			0-10	11-20	21-30	31-40	41-50	51-60	61 +	
	English	Federal Government	7%	11%	21%	22%	26%	9%	3%	33,110
		Retail, Accommodation, and Food Services	26%	17%	21%	16%	12%	5%	3%	18,080
		FIRE and Professional, Scientific, Tech	15%	14%	23%	19%	19%	7%	3%	19,685
		Health	16%	16%	27%	20%	14%	4%	2%	18,440
		Other Industries	18%	16%	24%	18%	15%	5%	2%	48,960
		All industries	16%	15%	23%	19%	18%	6%	3%	138,275
	French	Federal Government	5%	9%	20%	27%	28%	9%	3%	14,010
		Retail, Accommodation, and Food Services	36%	19%	20%	14%	8%	3%	1%	5,455
		FIRE and Professional, Scientific, Tech	20%	16%	20%	21%	16%	5%	2%	3,340
		Health	22%	16%	27%	18%	12%	2%	2%	7,845
		Other Industries	23%	17%	22%	18%	14%	4%	2%	19,200
		All Industries	19%	15%	22%	20%	17%	5%	2%	49,850
	Bilingual	Federal Government	6%	9%	20%	24%	28%	10%	3%	15,435
		Retail, Accommodation, and Food Services	30%	16%	22%	15%	12%	3%	2%	3,230
		FIRE and Professional, Scientific, Tech	15%	12%	21%	21%	21%	6%	3%	3,405
		Health	15%	15%	25%	22%	16%	5%	2%	4,160
		Other Industries	18%	13%	21%	21%	19%	5%	3%	12,865
All Industries		14%	12%	21%	22%	22%	7%	3%	39,100	

Source: Population Census, 2016

Table 8 Minutes men spent commuting from home to work in Ottawa-Gatineau by home language

	Home language	Industrial Sector	Commuting Duration (minutes)							Total
			0-10	11-20	21-30	31-40	41-50	51-60	61 +	
Men	English	Federal Government	8%	11%	22%	22%	24%	9%	3%	34,220
		Retail, Accommodation, and Food Services	25%	16%	24%	17%	12%	4%	2%	22,470
		FIRE and Professional, Scientific, Tech	15%	16%	26%	20%	16%	5%	2%	25,045
		Health	15%	17%	27%	19%	15%	4%	3%	5,320
		Other	15%	16%	25%	21%	15%	5%	2%	72,950
		All Industries	15%	15%	24%	21%	17%	6%	3%	160,005
	French	Federal Government	5%	9%	21%	27%	28%	8%	2%	11,195
		Retail, Accommodation, and Food Services	31%	19%	23%	16%	8%	2%	1%	6,280
		FIRE and Professional, Scientific, Tech	15%	14%	21%	23%	18%	5%	3%	3,295
		Health	22%	17%	26%	16%	14%	3%	1%	2,205
		Other	17%	14%	22%	22%	16%	6%	2%	28,240
		All Industries	16%	14%	22%	22%	18%	6%	2%	51,215
	Bilingual	Federal Government	7%	10%	22%	23%	26%	8%	3%	11,555
		Retail, Accommodation, and Food Services	27%	16%	22%	18%	11%	4%	2%	4,015
		FIRE and Professional, Scientific, Tech	14%	13%	23%	22%	21%	6%	2%	3,875
		Health	18%	13%	24%	20%	17%	5%	3%	1,060
		Other	14%	13%	24%	22%	18%	6%	3%	17,315
		All Industries	13%	12%	23%	22%	20%	6%	3%	37,820

Source: Population Census, 2016

There is a notable gap in the commuting times of Anglophones and Francophones at the 30-minute mark. In this instance, 22% of Anglophones and 27% of Francophones in the federal government sector commute between 31 and 40 minutes to work (Table 7 and 8). Equally as important is the fact that 9% of francophone and between 9 to 10% of bilingual public servants have short commutes of less than 20 minutes compared 11% of Anglophones. This suggests that Francophones spend more time commuting to work than Anglophones employed in the federal government sector. It also must be noted that unlike other industries, the commuting times of women and men in the federal public service remain relatively consistent. This conflicts with literature on women's work lives, which argues that women generally spend less time commuting to work than men (Haley-Lock et al., 2013; Shearmur, 2006; Crane, 2007). In this regard, it is possible that women and men experience similar types of challenges associated with commuting to federal government offices in Ottawa-Gatineau. Instead, the different commuting times between federal public servants may be linked to linguistic and demographic factors such as home language and residential location. In this respect, the disparity between Anglophones and Francophones only becomes more pronounced when examining the length of time it takes federal public servants to reach offices in Ottawa's suburbs, especially for Gatineau residents.

While commuting times are relatively consistent for those working in Ottawa's downtown offices (Table 9), it is clear that Francophones spend more time commuting if they work in Heron Park. For instance, Franco-Ontarians spend 10 minutes longer (approximately 42 minutes) commuting to Heron Park than their anglophone counterparts (approximately 31 minutes) (Table 10). The longer commutes of francophone public servants could stem the fact that many live in Ottawa's east-end, which places them geographically further away from offices in Heron Park. Of Gatineau residents, Anglophones spend the most time commuting to offices in

Heron Park. This is largely due to the fact that Anglophones in Gatineau are concentrated in the districts of Alymer, Chelsea, and Wakefield, which are quite distant from the centre of either Gatineau or Ottawa. The physical distance between the homes of Gatineau residents and their work in Heron Park leads to longer commute times.

Table 9 Minutes federal government employees spent commuting from home to offices in Ottawa's downtown business precinct by home language

CMA (part)	Home Language	N	Mean Time	Std. Error	Std. Deviation
Ottawa	French	2,690	36.69	0.31	15.84
	English	17,980	34.44	0.12	15.93
	Bilingual	5,885	35.74	0.21	15.82
Gatineau	French	5,460	38.11	0.19	14.22
	English	970	37.11	0.46	14.32
	Bilingual	3,060	38.89	0.29	15.83

Source: Population Census, 2016

Table 10 Minutes federal government employees spent commuting from home to offices in Heron Park by home language

CMA (part)	Home Language	N	Mean Time	Std. Error	Std. Deviation
Ottawa	French	160	42.24	1.56	19.67
	English	2,150	31.40	0.38	17.52
	Bilingual	290	36.70	1.05	17.89
Gatineau	French	355	38.43	0.67	12.70
	English	60	51.89	2.39	18.76
	Bilingual	80	39.67	1.36	12.04

Source: Population Census, 2016

The location of federal government offices influences the lives of its workers, especially in terms of the ease with which individuals with particular language skills and who live in particular parts of the metropolitan area can reach office locations (Hanson & Pratt, 1991; Hellerstein et al., 2008). In addition, Gatineau residents must contend with the challenge of daily traffic congestion on interprovincial bridges, and/or switching between the STO and OC Transpo transit systems. These findings suggest that the burden of commuting to work is not borne equally between Anglophones and Francophones when federal public servants work in offices located outside of Ottawa's downtown core. In fact, as a linguistic majority in Gatineau, the French-speaking population is at the greatest disadvantage in terms of accessing jobs in Ottawa's

suburbs. To better understand these challenges, it is imperative to discuss transit mode choice with respect to how people commute to work.

4.7.2 Decisions about Mode of Transit

Decisions about where to work and how to get there are influenced by the transit options available to individuals and whether they are affordable (Sánchez & González, 2016; Wheatley, 2013). In Ottawa-Gatineau, downtown Ottawa is accessible via OC Transpo and the Société de transport de l'Outaouais (STO) bus systems, whereas Heron Park is only accessible using Ottawa's public transit system. Since STO buses only serve downtown Ottawa (Société de transport de l'Outaouais, 2019), Gatineau residents experience infinitely more complex commutes when they work outside of the downtown core. In this respect, Gatineau's population would benefit most from a more integrated regional transit system, as they account for a large share of commuters crossing the interprovincial bridges from Gatineau to work in Ottawa. Likewise, a more efficient regional transit system would ensure greater integration in the Ottawa-Gatineau area, and help the regional workforce avoid congested bridges in its daily commutes (City of Ottawa, 2019).

In the coming years, the municipal governments of Ottawa and Gatineau plan to enhance the integration of each city's public transit system²¹ (City of Ottawa, 2019). However, many residents will still need to switch between transit systems in order to reach offices outside of downtown Ottawa or the Hull sector of Gatineau. Switching between transit systems can be

²¹ By 2023, Ottawa's O-train will have rail-based rapid transit with two lines and 42 stations, and the Transit-way lines and stations will be augmented by a new bus line, the Baseline BRT line (City of Ottawa, 2019). The city is also planning for expansions of the O-train to the west and south into Kanata and Barrhaven (City of Ottawa, 2019). At the same time, the City of Gatineau has plans for a light-rail line that will connect the Aylmer and Plateau sectors to its downtown (City of Ottawa, 2019). This line will also cross one or two interprovincial bridges to connect with Ottawa's O-train (City of Ottawa, 2019).

time-consuming, unreliable, and costly, as missing, waiting, or paying for transfers adds up over time. The time and cost associated with longer and more complicated commutes, as well as difficulties finding affordable parking, could explain why there is nearly two times the share of federal public servants working in Ottawa's downtown offices (51.6%) who use public transit compared to those working in Heron Park (25.5%). Downtown offices are easily accessible via both regional transit systems (Table 11). This is demonstrated in the similar shares of French, English, and bilingual public servants using public transit, regardless of whether they live in Gatineau or Ottawa. The same is not true for those working in offices in Ottawa's suburbs. For example, of those working in Heron Park, 84% of Gatineau residents take private vehicles to get to work, which implies that they live in areas not well served by public transit or that the inter-transit system switch adds too much time and complication to a commute (Table 12). The availability of affordable parking could also influence decisions about transportation modes. In particular, the largest disparity is between Francophones living in Ottawa (46.9%) and those living in Gatineau (84.5%), which suggests that living in Gatineau limits choices about how to get to work, and that public transit would likely result in long, complicated commutes.

In contrast, Ottawa residents are geographically closer to a large share of federal government employment in the NCR, and generally live much closer to offices in Ottawa's suburbs than Gatineau residents. Moreover, Ottawa residents do not need to transfer between regional transit systems, and Heron Park can be easily accessed using transit stops at Heron and Billings Bridge stations (Heron Park, 2020) or the Mooney's Bay O-train station, which is part of Ottawa's light rail Trillium Line (Heron Park, 2020). The fact that Ottawa residents do not need to transfer between regional transit systems makes public transit a more viable option. This is also true for Franco-Ontarians who are concentrated in Ottawa's east-end, which is demonstrated

in the equal shares of people who use private and public transit (46.9%) (Table 12). This suggests that the choice to use a private vehicle to get to work is strongly associated with geographic location.

As the linguistic majority in Gatineau, it is likely that a greater share of Francophones than Anglophones would assume the financial burden associated with maintaining and using a private vehicle in order to simplify their commute from home to offices in Heron Park or other suburban office locations. Consequently, moving offices outside of Ottawa's downtown core means infinitely more complex commutes for many Gatineau residents.

Table 11 Choice of mode of transit for federal government employees commuting to offices in downtown Ottawa by home language

CMA -Part	Home Language	Mode of Transportation				
		Private Vehicle	Public Transportation	Active Transportation	Other Modes of Transportation	All Transportation Modes
Ottawa	French	31.4%	53.9%	14.3%	0.4%	2,690
	English	27.9%	51.5%	20.1%	0.6%	17,980
	Bilingual	35.2%	48.6%	16.0%	0.3%	5,885
	Other Languages	22.2%	68.9%	8.9%	0.0%	450
	All Languages	29.7%	51.4%	18.4%	0.5%	27,010
Gatineau	French	40.5%	53.8%	5.3%	0.5%	5,460
	English	46.9%	44.8%	8.2%	0.0%	970
	Bilingual	39.9%	51.8%	7.8%	0.5%	3,060
	Other Languages	36.0%	56.0%	8.0%	0.0%	125
	All Languages	40.9%	52.3%	6.4%	0.4%	9,615
CMA	French	37.5%	53.8%	8.3%	0.5%	8,150
	English	28.9%	51.1%	19.5%	0.5%	18,955
	Bilingual	36.8%	49.7%	13.2%	0.3%	8,945
	Other Languages	25.2%	66.1%	8.7%	0.0%	575
	All Languages	32.7%	51.6%	15.3%	0.5%	36,620

Source: Population Census, 2016.

Table 12 Choice of mode of transit for federal government employees commuting to federal offices in Heron Park

CMA (part)	Home Language	Mode of Transportation				
		Private Vehicle	Public Transportation	Active Transportation	Other Modes of Transportation	All Transportation Modes
Ottawa	French	46.9%	46.9%	0.0%	0.0%	160
	English	70.0%	24.0%	5.3%	0.9%	2,150
	Bilingual	72.4%	24.1%	3.4%	0.0%	290
	Other Languages	45.7%	51.4%	0.0%	0.0%	175
	All Languages	67.5%	27.1%	4.7%	0.9%	2,770
Gatineau	French	84.5%	14.1%	0.0%	0.0%	355
	English	75.0%	25.0%	0.0%	0.0%	60
	Bilingual	81.3%	18.8%	0.0%	0.0%	80
	Other Languages	0.0%	0.0%	0.0%	0.0%	10
	All Languages	82.2%	16.8%	0.0%	0.0%	505
CMA	French	72.8%	24.3%	0.0%	0.0%	515
	English	70.1%	24.0%	5.2%	0.9%	2,210
	Bilingual	74.0%	23.3%	2.7%	0.0%	365
	Other Languages	45.9%	51.4%	0.0%	0.0%	185
	All Languages	69.8%	25.5%	4.1%	0.8%	3,275

Source: Population Census, 2016.

4.8 Conclusion

This chapter underscores important differences in the work lives of Ottawa-Gatineau's official language communities, paying special attention to those working in the federal government sector. To better understand the everyday lives of language communities, the uneven residential distribution of French, English, and bilingual language communities across the Ottawa-Gatineau region is outlined. This chapter also addresses issues around language requirements in the workplace in order to underline the importance of bilingualism for employment in the federal government sector. Lastly, it considers the challenges associated with the journey to work, especially as federal offices increasingly move away from the downtown core. By discussing these key topics, Chapter 4 underlines the ways in which the federal government's hiring practices and the location of its offices impinge on employment opportunities for Francophones living in Gatineau, especially those who are unilingual. Chapter 4 also highlights the fact that commuting patterns in the federal government sector are largely a function of geographic location rather than gender. These considerations are especially important as Chapter 5 moves on to investigate the role of language and gender in shaping women's employment status in Ottawa-Gatineau's federal government sector.

CHAPTER 5

Examining the Intersections of Language, Gender, and Occupation in Ottawa-Gatineau's Federal Public Service

5.1 Introduction

Gender divisions and occupational segregation in labour markets have long drawn attention, and the underlying reasons behind differences in the types of paid work undertaken by women and men has been investigated by a variety of disciplines and for many different time periods (Schnepper, 1977; Stansell, 1988; Hanson & Pratt, 1995; May & Watrel, 2000; Boyer, 2004; Figueroa-Saavedra, 2008; Wright, Eaton, & Skagerberg, 2015). Moreover, as discussed in previous chapters, there is a substantial body of research examining differences in earnings between women and men across occupations and industries (see Chapter 2; McCall, 2001). The ways in which societies construct gender roles, as well as expectations about how gender roles should be fulfilled, have been seen as underpinning the dynamics of the work that women and men perform, as well as earnings associated with particular occupations. In their landmark study on women and work, Hanson and Pratt (1995) argue that gendered expectations around the care of dependents influence where women work to a much greater degree than among men, often resulting in women compromising for less well-paid or desirable work in order to balance distance or time with childcare, eldercare, or family obligations (England, 1993; McLafferty, 2015; McLafferty & Preston, 1999). This research also points to some employers deliberately siting some workplaces near middle-class suburbs in order to attract relatively well-educated women to work in routine “back office” administrative occupations, in turn creating pink-collar suburban employment nodes (England, 1993; Mez & Bühler, 1998; England & Lawson, 2005).

In this chapter, attention turns to a less well-investigated dimension of gendered occupations and earnings: the way in which gender and language abilities intersect to influence women and men's work lives in the federal government. The analysis proceeds in two steps. First, it broadly examines the industrial structure and occupations in Ottawa-Gatineau to determine whether there are meaningful differences in the occupations held by women and men when a variety of other factors such as language, education, age, marital status, and presence of children are considered. Secondly and more narrowly focused on the federal government, it asks how language and gender influence occupational status and employment income outcomes for employees.

Individuals who were employed at the time of the 2016 census are the focus of attention, specifically those working in major industrial sectors in the Ottawa-Gatineau metropolitan region, as well as those employed in the largest occupational categories. While manufacturing is an important industrial sector in many Canadian cities, and primary industries employ a large number of people across the country, these sectors are small components of this region's industrial mix. Consequently, attention here focuses on the following industrial groupings, which are largely dominated by services: 1. Federal Government sector; 2. Retail, Accommodation, and Food Services; 3. Finance, Insurance, and Real Estate (FIRE), Professional, Scientific, and Technical sectors ("FIRE and Professional")²²; 4. Health; and, 5. Other. In order to compare across industrial sectors, especially when language and gender are included in the analysis, occupations were amalgamated into four relatively large categories: 1. Management; 2. Professional; 3. Technical and Paraprofessional ("Paraprofessional"); and, 4. Administration and

²² To facilitate easier reading, the names of some industrial sectors and occupational groups have been shortened, as indicated in parentheses.

Administrative Support (“Administration”). These occupational groupings reflect both the type of work being performed and the relative skill level of individuals employed.

5.2 The Unusual Ottawa-Gatineau Labour Market: Sectors and Occupations

Women and men work in all industries in Ottawa-Gatineau, but their relative representation varies significantly depending on the industrial sector. For example, in the region’s largest industrial sector, public administration, an almost identical number of women and men are employed. The same is not true in other sectors. For example, women (78%) far outnumber men (22%) in the Health sector, while the opposite is true for the FIRE and Professional sector where men predominate (56%) (Table 13). In the industrial sectors where there is relative gender parity, women and men are often found in quite different occupations. For example, in the Federal Government sector, 13% of women work in Management occupations, whereas the same is true of 17% of men (Table 14). The Administration occupational group, however, points to major differences between women and men in the federal public service – 33% of women work in these jobs compared to 17% of men. The same pattern for this occupational group is evident to a slightly greater degree in the FIRE and Professional sector, and to a lesser extent in Health.

Table 13 Proportion of women and men in different industrial sectors, Ottawa-Gatineau CMA

Industrial Sector	Women	Men	Total
Federal Government	52%	48%	126,480
Retail, Accommodation, and Food Services	45%	55%	64,460
FIRE, Professional, Scientific, and Technology	44%	56%	68,645
Health	78%	22%	41,715
Other	41%	59%	220,185
Total	48%	52%	521,480

Source: Population Census, 2016.

Table 14 Occupations of women and men by industrial sector, Ottawa-Gatineau CMA

	Industry	Occupational Group					
		Management	Professional	Paraprofessional	Administration	Other	Total
Women	Federal Government	13%	44%	7%	33%	2%	66,160
	Retail, Accommodation, and Food Services	21%	3%	5%	8%	63%	29,015
	FIRE and Professional	12%	33%	9%	30%	17%	30,250
	Health	5%	38%	17%	18%	22%	32,435
	Other	10%	33%	14%	21%	22%	90,265
	Total	12%	33%	11%	23%	21%	248,125
Men	Federal Government	17%	46%	15%	17%	5%	60,315
	Retail, Accommodation, and Food Services	22%	3%	2%	6%	67%	35,445
	FIRE and Professional	14%	50%	11%	7%	17%	38,400
	Health	9%	34%	22%	7%	28%	9,275
	Other	12%	20%	11%	6%	51%	129,920
	Total	14%	28%	11%	9%	37%	273,360

Source: Population Census, 2016.

The fact that many women work in secretarial, administrative, and clerical positions is well documented in the literature (Schnepper, 1977; Lowe, 1987; Sheridan, 1992; Vatter, 1994; Charles & Grusky, 2004), as are the relatively low wages associated with these occupations (Zellner, 1972; Thornton & Thornton, 1981; Clair & Thompson, 1996; Wooden, 1999; Wilson, 2001; Todd & Eveline, 2007; Mchenry & Luetge, 2013). However, when language is incorporated into the analysis, these trends begin to take on new meaning.

Among anglophone women in the federal public service, 29% are employed in Administration occupations; however, the same is true of 41% of francophone women (Tables 15 and 16). Fewer francophone women are employed in Professional and Paraprofessional occupations relative to their anglophone counterparts. This same gap between francophone and anglophone women is not nearly as marked in the FIRE and Professional sector. Although 30% of anglophone women in the FIRE and Professional sector work in Administration occupations, the same is true for 29% of francophone women. The difference in the proportion of francophone and anglophone men working in Administration occupations in the federal public sector is also not as marked as among women, although a slightly higher proportion of francophone men work in this occupational class relative to their anglophone counterparts (20% versus 16% respectively). Consistently, whether considering Francophones or Anglophones, a much larger proportion of women than men work in Administration.

Table 15 Occupations of anglophone workers by industrial sector, Ottawa-Gatineau CMA

Gender	Industrial Sector	Occupational Group					
		Management	Professional	Paraprofessional	Administration	Other	Total
Women	Federal Government	13%	48%	8%	29%	2%	33,540
	Retail, Accommodation, and Food Services	23%	3%	5%	7%	61%	18,355
	FIRE and Professional	12%	32%	10%	30%	16%	21,530
	Health	5%	38%	17%	19%	21%	18,815
	Other	11%	33%	13%	20%	22%	52,460
	Total	13%	33%	11%	22%	21%	144,700
Men	Federal Government	17%	49%	15%	16%	4%	34,765
	Retail, Accommodation, and Food Services	23%	3%	3%	6%	65%	22,850
	FIRE and Professional	15%	51%	11%	7%	16%	28,170
	Health	10%	38%	21%	7%	24%	5,485
	Other	13%	22%	12%	6%	47%	77,165
	Total	15%	30%	11%	8%	35%	168,435
Both	Federal Government	15%	49%	11%	22%	3%	68,305
	Retail, Accommodation, and Food Services	23%	3%	3%	7%	64%	41,200
	FIRE and Professional	14%	43%	10%	17%	16%	49,700
	Health	6%	38%	18%	16%	22%	24,295
	Other	12%	26%	12%	12%	37%	129,630
	Total	14%	32%	11%	15%	29%	313,135

Source: Population Census, 2016.

Table 16 Occupations of francophone workers by industrial sector, Ottawa-Gatineau CMA

Gender	Industrial Sector	Occupational Group					
		Management	Professional	Paraprofessional	Administration	Other	Total
Women	Federal Government	12%	39%	5%	41%	2%	15,860
	Retail, Accommodation, and Food Services	18%	3%	5%	9%	65%	5,950
	FIRE and Professional	9%	35%	5%	29%	21%	4,075
	Health	4%	35%	16%	19%	27%	8,530
	Other	7%	35%	18%	22%	19%	21,505
	Total	9%	33%	12%	26%	20%	55,920
Men	Federal Government	17%	44%	14%	20%	6%	12,635
	Retail, Accommodation, and Food Services	19%	2%	2%	6%	72%	6,765
	FIRE and Professional	14%	44%	11%	8%	23%	4,360
	Health	6%	26%	24%	6%	38%	2,405
	Other	8%	15%	10%	6%	60%	30,785
	Total	12%	22%	11%	9%	46%	56,955
Both	Federal Government	14%	41%	9%	32%	4%	28,495
	Retail, Accommodation, and Food Services	18%	2%	3%	7%	69%	12,720
	FIRE and Professional	12%	39%	8%	19%	22%	8,435
	Health	4%	33%	18%	16%	29%	10,935
	Other	8%	23%	13%	12%	43%	52,290
	Total	11%	28%	11%	18%	33%	112,875

Source: Population Census, 2016.

Table 17 Occupations of bilingual workers by industrial sector, Ottawa-Gatineau CMA

Gender	Industrial Sector	Occupational Group					
		Management	Professional	Paraprofessional	Administration	Other	Total
Women	Federal Government	16%	39%	6%	36%	2%	15,635
	Retail, Accommodation, and Food Services	22%	3%	4%	11%	61%	3,255
	FIRE and Professional	12%	33%	7%	32%	16%	3,725
	Health	5%	42%	18%	20%	14%	4,235
	Other	11%	36%	12%	23%	18%	13,505
	Total	13%	35%	10%	28%	15%	40,355
Men	Federal Government	18%	40%	17%	6%	40%	11,735
	Retail, Accommodation, and Food Services	24%	2%	3%	66%	2%	4,095
	FIRE and Professional	15%	45%	10%	19%	45%	4,380
	Health	11%	28%	20%	29%	28%	1,110
	Other	12%	17%	10%	53%	17%	18,095
	Total	16%	25%	12%	36%	25%	39,410
Both	Federal Government	17%	40%	11%	28%	4%	27,370
	Retail, Accommodation, and Food Services	23%	2%	4%	8%	64%	7,350
	FIRE and Professional	14%	39%	9%	21%	17%	8,105
	Health	7%	39%	18%	19%	17%	5,345
	Other	12%	25%	11%	14%	38%	31,600
	Total	14%	30%	11%	20%	25%	79,765

Source: Population Census, 2016.

The vast majority of women and men working in the Federal Government, regardless of language, are employed in Professional occupations. The same is true for similar industrial sectors such as FIRE and Professional, but a larger proportion of men than women work in a Professional occupation. For example, among anglophone men in the FIRE and Professional sector, 51% work in Professional occupations compared to 32% of women (Table 15). The same pattern is true among Francophones where, to illustrate, 44% of men and 35% of women work in Professional occupations. In both linguistic groups, a larger proportion of men than women also work in Paraprofessional occupations across similar industrial sectors. For example, in the Health sector, 24% of francophone men versus only 16% of women are employed in Paraprofessional occupations (Table 16). Consistently, in most industrial sectors, a larger proportion of men than women are found in Management occupations. Among anglophone and francophone men in the Federal Government, 17% work in Management compared to 13% of anglophone and 12% francophone women.

These same trends are evident among women and men who are bilingual and work for the Federal Government (Table 17). First, a slightly larger proportion of bilingual women and men work in Management occupations compared to Anglophones and Francophones. A larger share of bilingual women (16%) hold Management positions relative their French (12%) and English (13%) counterparts (Tables 15, 16, and 17). However, among men a slightly smaller proportion of bilinguals are employed in Professional occupations, especially relative to Anglophones (40% versus 49% respectively). The important role that bilingual women play in Administration stands out – 36% of bilingual women are employed in this occupational class. Although the proportion of bilingual women working in Administrative occupations is lower than among francophone women (41%), it does exceed that of anglophone women by a

considerable margin (29%). At the same time, only 6% of bilingual men working for the Federal Government are employed in Administrative occupations, which is far less than the proportion of anglophone men (16%) and francophone men (20%). Although bilingualism is an important human capital characteristic for employment and opportunities in the federal public service, it does appear that women, especially francophones and bilinguals, remain strongly represented in administrative occupations. Bilingualism as a human capital characteristic appears to be much less significant among occupations requiring higher levels of formal education and/or management skills.

Apart from seeing a small shift in the number of women and men working in Management occupations, it is difficult to determine the degree to which bilingualism benefits federal workers, at least in terms of the type of occupation held. In fact, among bilingual men a smaller proportion are employed in Professional occupations than Anglophones, with only a slightly larger proportion in less well-paid Paraprofessional occupations. For bilingual women, a slightly greater proportion are employed in Management and Paraprofessional occupations than their francophone counterparts, but in both groups women still dominate the Administration occupational class. The degree of similarity in the distribution francophone and bilingual women across occupational classes in the Federal Government is remarkable, if only for its consistency.

There are many notable discrepancies between the linguistic communities, and the distinct over-representation of francophone women in Administrative occupations in the Federal Government is difficult to disregard. The same is also true among bilingual women who, while not as concentrated in Administration, are more likely to work in this occupational category than any other. It is also evident that the proportional distribution of men across occupational categories in the Federal Government differs from that of women in several important ways. In

relative terms, a much smaller share of men than women from each linguistic community work in Administration and a larger proportion are found in Professional and Managerial occupations. It is not clear, however, whether the differences reflect linguistic and/or gender characteristics or other human capital characteristics. In the following section, we examine the relative significance of language community and gender status in relation to other human capital characteristics in determining the occupations of women and men working in the Federal Government.

5.3 Occupational Status among Women and Men in the Federal Government: The Relative Significance of Gender and Language

Previous research has demonstrated that numerous factors can influence the occupational status of women and men in the workforce. The descriptive analysis has focused on language and gender, and has demonstrated important disparities in the occupational status by language for women and men working for the federal government. In this section, attention turns to consider the role played by other socio-demographic variables, as well as language and gender, in influencing employment outcomes among women and men living in Ottawa-Gatineau and working for the federal government. Do factors, such as level of education, marital status or place of residence, influence the relative importance of language and gender in shaping the employment and earnings characteristics of women and men? To strengthen the interpretation of the descriptive findings, we turn to logistic regression analyses²³ in which a number of the

²³ Logistic regression calculates odds ratios that describe the independent effect of each determinant of occupational status, controlling for the effects of all other determinants (Knoke & Burke, 1980). Odds ratios that differ greatly from others signify strong effects. Logistic regression analysis requires reference categories for the dependent and independent variables. The choice of these categories is determined by the characteristic that frequently is regarded as normative (i.e., being English language use, living in a married or common-law relationship) or the most prevalent characteristic (i.e., working as a professional in Ottawa-Gatineau), or a baseline status (i.e., at least a high-school level of educational attainment). See Osborne (2015) for an in-depth discussion of logistic regression analysis.

independent factors expected to influence earnings are considered. In short, the analysis investigates whether occupational attainment and earnings differences between women and men from francophone, anglophone, and bilingual language groups persist when the effects of many factors are considered simultaneously.

Analysis of the influence of various human capital, social, labour market, and ethno-linguistic characteristics on the employment status of women and men proceeds in stages. First, the effects of several explanatory variables that are often associated with occupational attainment, namely age, marital status, the presence of children, education, residential location (Ottawa or Gatineau), and linguistic group are examined for all workers in the federal government. Education, of course, has a direct bearing on occupational attainment for most workers, while marital status and household composition capture how responsibilities within a household influence employment, particularly among women who often balance child and elder care responsibilities with paid work (Statistics Canada, 2017a). Following a discussion of the aggregated analysis, the results for the occupational attainment status of women and men are presented separately. The chapter concludes by drawing attention to the similarities and differences in the factors that affect earnings across language groups among women and men.

5.3.1 An Overview of Socio-Economic Characteristics of Federal Workers

This chapter moves beyond the descriptive analyses and asks a relatively simple set of questions: are differences in occupational attainment and employment income achievement influenced by language and gender when a number of other socio-economic characteristics are controlled? To set the context for the inferential statistical analyses that follow, important social and economic characteristics of federal government workers that will be included in the analysis are discussed. In previous chapters, language use among federal workers was described, as were

their occupational characteristics, and these findings will not be repeated here (see Chapters 4). It is important to bear in mind that occupational attainment is the analytical focus in the first part of this chapter, but it is also included as an explanatory factor when attention shifts to employment income. In this later analysis, occupation is included among other explanatory variables simply to gauge whether gender and language characteristics are significant in explaining differences in employment earnings among federal employees in Ottawa-Gatineau. In addition, Chapter 4 described the ways in which public servants are distributed residentially by language use across Ottawa-Gatineau. It was argued that quite distinct residential distribution patterns relative to the location of major workplace nodes create differences in journey to work patterns between individuals living in Ottawa and Gatineau. The suburbanization of federal workplaces in Ottawa appears to have an especially important effect in increasing the amount of time spent undertaking a journey to work among Gatineau residents, most of whom are Francophones. Given the apparent importance of where workers live, residential location (Ottawa or Gatineau) is included in the inferential statistical analyses that follow. In terms of age, a greater share of bilinguals (22%) and Anglophones (22%) than Francophones (17%) fall in the youngest age bracket (24 to 34 years) (Table 18). In contrast, a smaller share of bilinguals than Francophones and Anglophones (14% versus 18% and 19%) are older (between 55 to 65 years). In terms of education, francophone and bilingual women have similar levels of educational attainment – between 29% and 27% have completed college, an apprenticeship, or CEGEP, and between 52% and 54% obtained a university degree. Anglophone women and men, however, stand out in terms of university-level education: 67% have at least a Bachelor's degree and account for the largest share of workers who have attained university-level education. In addition, the majority of federal public servants are married or are in a common-law relationship and have children

present in the household. To this end, a greater share of men, especially francophone men (76%), are married or are living common law, and a larger share of anglophone women (32%) and men (33%) live in a household without children. With these characteristics in mind, the inferential statistical analysis of occupational attainment will be discussed and interpreted.

Table 18 Social and demographic characteristics of Federal Government sector employees, Ottawa-Gatineau CMA, 2016

Independent variable	French	English	Bilingual	Total
<i>Age</i>				
24-34	17%	22%	22%	24,090
35-44	32%	29%	33%	35,605
45-54	33%	31%	31%	36,715
55-65	18%	19%	14%	20,570
Total	25,135	65,170	26,670	116,975
<i>Residential location</i>				
Ottawa	27%	94%	64%	89,765
Gatineau	73%	6%	36%	34,405
Total	28,495	68,305	27,370	124,170
<i>Occupations</i>				
<i>Women</i>				
Professional	39%	48%	39%	28,660
Management	12%	13%	16%	8,795
Technical and Paraprofessional	5%	8%	6%	4,410
Administration	41%	29%	36%	21,725
Other Occupation	2%	2%	2%	1,450
Total	15,860	33,545	15,635	65,040
<i>Men</i>				
Professional	44%	49%	40%	27,105
Management	17%	17%	18%	10,230
Technical and Paraprofessional	14%	15%	17%	8,900
Administration	20%	16%	19%	10,140
Other Occupation	6%	4%	6%	2,750
Total	12,635	34,760	11,730	59,125
<i>Education</i>				
<i>Women</i>				
High school	19%	14%	18%	9,985
College, apprenticeship, or CEGEP	29%	19%	27%	14,610
University degree	52%	67%	54%	38,010
Total	13,985	33,220	15,400	62,605
<i>Men</i>				
High school	13%	13%	16%	7,590
College, apprenticeship, or CEGEP	26%	21%	29%	13,405
University degree	61%	67%	55%	36,150
Total	11,150	34,470	11,525	57,145
<i>Marital status</i>				
<i>Women</i>				
Single, divorced, or separated	31%	34%	32%	21,260
Married or common law	69%	66%	68%	43,775

Total	15,860	33,540	15,635	65,035
Men				
Single, divorced, or separated	24%	27%	27%	15,620
Married or common law	76%	73%	73%	43,515
Total	12,635	34,765	11,735	59,135
<i>Presence of children in the household</i>				
Women				
Children present	74%	68%	74%	36,940
No children	26%	32%	26%	15,235
Total	13,325	26,205	12,645	52,175
Men				
Children present	75%	67%	73%	33,450
No children	25%	33%	27%	14,140
Total	10,605	27,620	9,370	47,595

Source: Population Census, 2016. Calculations by author.

5.3.2 Occupational Attainment in the Federal Government

Among women working in the federal public service, occupational attainment is strongly influenced by a number of human capital characteristics. Using multinomial logistic regression analysis²⁴ in which women and men are both included in the analysis and “Professional” occupations are the reference category against which the values of all other occupations are measured, language and gender remain important factors in determining occupational attainment (Table 19). However, results do vary in important ways across occupational categories. Relative to Professional occupations, women are much less likely relative to men to be employed in Management, Paraprofessional, and “Other” occupational classes. In contrast, women are much more likely to be employed in Administrative jobs relative to Professional occupations (odds ratio = 1.875). Language also reveals the anticipated effects on occupational attainment, with “English” being the comparative category given its normative significance in Canadian society. Although statistically significant ($p = 0.05$), Francophones are only slightly more likely to be

²⁴ Multinomial logistic regression predicts the probability of belonging to a category of a dependent variable that has more than two possible outcomes based on several different explanatory variables. It is an extension of binary logistic regression in that it allows for more than two categories of the outcome variable to be analyzed. The dependent variable is usually nominal or ordinal in scale, while the explanatory variables can be either dichotomous or continuous in measurement (see Osborne, 2015 (Chapter 12) for an in-depth discussion of multinomial logistic regression).

employed in Management and Technical professions. In contrast, there is a much stronger likelihood that French-speakers will be employed in Administrative and “Other” occupations (odds ratio = 1.322 and 1.656 respectively) relative to English-speakers in Professional occupations. Across all the occupational categories, bilinguals are also more likely to be employed in these job categories relative to their anglophone counterparts working in Professional occupations.

Given that this research project examines the intersecting effects of language and gender on occupational attainment, the intersection of these two variables was also included in the model. The significance of the interaction of these two variables is most apparent for Administrative and other occupations. For example, among French-speaking women, the likelihood of being employed in Administrative occupations is considerably higher than their male counterparts (odds ratio = 2.659 and 1.322 respectively) relative to English-speaking men. Interestingly, being bilingual only has a modest effect on the likelihood of working in Administration, especially for women (odds ratio = 1.003). However, the likelihood that French and bilingual women will be employed in Paraprofessional and “Other” occupations is considerably lower compared to bilingual and French-speaking men.

Table 19 Multiple regression results for the occupational outcome of Federal Government workers²⁵

Characteristics	<u>Management</u>		<u>Paraprofessional</u>		<u>Administration</u>		<u>Other</u>	
	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
Demographic								
Age (continuous)	1.032*	0.001	0.985*	0.001	0.99*	0.001	0.995*	0.002
Gender (women)	0.771*	0.025	0.554*	0.031	1.875*	0.024	0.577*	0.056
<i>Gender (men)</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	<i>1.000</i>
Ottawa	1.078*	0.026	1.216*	0.032	0.887*	0.023	0.970	0.049
<i>Gatineau</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Social								
Single, divorced, or separated	0.881*	0.032	0.996	0.037	1.675*	0.025	1.708*	0.054
<i>Married or common law</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
College, apprenticeship, or CEGEP	0.919**	0.039	0.919**	0.033	0.574*	0.027	0.597*	0.047
University degree	0.901*	0.033	0.150*	0.033	0.146*	0.025	0.100*	0.048
<i>High school</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Presence of children	1.167*	0.021	1.020	0.026	0.785*	0.019	0.78*	0.042
<i>No children</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Cultural								
French	1.096**	0.036	1.152*	0.042	1.322*	0.037	1.656*	0.065
Bilingual	1.413*	0.034	1.305*	0.038	1.239*	0.037	1.850*	0.059
Other language	0.264*	0.122	0.597*	0.124	1.125	0.090	1.019	0.184
<i>English</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Intersections								
French * Women	0.987	0.036	0.400*	0.051	2.659 *	0.029	0.666*	0.074
<i>French * Men</i>	<i>1.096**</i>	0.036	<i>1.152*</i>	0.042	1.322*	0.037	<i>1.656*</i>	0.065
Bilingual * Women	1.125**	0.046	0.667*	0.058	1.003*	0.045	0.529*	0.096
<i>Bilingual * Men</i>	<i>1.413*</i>	0.122	<i>1.305*</i>	0.037	<i>1.239*</i>	0.037	<i>1.850</i>	0.058
<i>English * Women</i>	<i>0.771*</i>	0.025	<i>0.554*</i>	0.031	<i>1.875*</i>	0.024	<i>0.577*</i>	0.055
<i>English * Men</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Intercept		0.065	1.000	0.069	1.000	0.053	1.000	0.108
N (unweighted)	30985							
N (weighted)	126475							

LF (d.f) for the final model: 25109.494 (52)*

* p < 0.01.

** p < 0.05

Source: Population Census, 2016. Calculations by author.

²⁵ Nominal and ordinal variables were re-coded so that the last categories were set as the reference (i.e., 0 = women and 1= men). Reference categories were “men”, “married or common-law”, “no children”, “English”, “high school diploma or less”, and “Gatineau”.

Finally, other socio-demographic characteristics have the anticipated effects on the occupations in which women and men are employed. For example, higher levels of education significantly decrease the probability of working in Administration for women and men (likelihood is essentially half or less that of individuals with high school education or less). Being single²⁶ tends to lower the likelihood of working in Management but significantly increases the odds of employment in Administrative or “Other” occupations. The presence of children, however, does lower the likelihood of working in these latter two occupational groups. This finding aligns with a considerable body of research that highlights the negative impact on employment, and most especially earnings, of responsibility for dependents (Statistics Canada, 2017a). The multinomial analysis suggests that Administrative positions are dominated by younger, single individuals. Finally, the analysis clearly indicates an important place of residence effect. The residents of Ottawa have a significantly stronger likelihood of working in Management and Paraprofessional occupations than their Gatineau counterparts, while they are less likely to work in Administration or “Other” occupations. In part, this reflects differences in the likelihood of Anglophones and Francophones working in specific occupations, such as Administration, as well as the strong spatial clustering of each community on either side of the Ottawa River (Ray & Gilbert, 2020).

5.3.3 Gender Effects on Occupational Attainment

To tease out gender effects relative to other factors in relation to occupational attainment, women and men were examined in separate multinomial regression analyses (Tables 20 and 21). Given the significance of the interaction effect between gender and language in the combined sample, only the main effects were analyzed. In broad terms, the independent analyses for

²⁶ Includes widowed, separated, or divorced.

women and men mirrors the results reported for the combined sample, although the effects are in some cases magnified. Francophone and bilingual women (Table 20) are much more likely to work in Management occupations, as well as in Administration relative to English women employed in a Professional occupation. They are also less likely than anglophone women to work in Paraprofessional occupations. The results clearly indicate that among women, being French-speaking or bilingual increases the probability of working in all of the occupational classes except for Technical and Paraprofessional. The effects of education, marital status, presence of children, and residential location also parallel those found for the aggregate analysis: education beyond high school, marriage, children in the household, and living in Ottawa all decrease the likelihood that women will work in Administrative occupations.

Similar patterns are evident for the analysis of men working for the Federal Government (Table 21). Again, the influence of education, marital status, children in the household, and place of residence are similar to those for women, and there are only small differences in magnitude. However, it is important to note that being either Francophone or bilingual increases the likelihood that men will be employed in each of the occupational classes relative to Anglophones employed in Professional occupations, and the effect is statistically significant in each case. Perhaps the most striking difference in the results for men and women is the fact that being a single man more than doubles the odds of working in Administration relative to men who are married or living common law. Simply being single raises the odds of working in Administration for men. It is impossible, however, using these data to determine whether men leave these posts for other occupations in the Federal Government once their marital status changes or if they leave the Federal Government entirely for better employment opportunities elsewhere.

Table 20 Multiple logistic regression results for women's occupational outcomes in the Federal Government, Ottawa-Gatineau CMA²⁷

Characteristics	<u>Management</u>		<u>Paraprofessional</u>		<u>Administration</u>		<u>Other</u>	
	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
Demographic								
Age (continuous)	1.038*	0.001	0.987*	0.002	0.989*	0.001	0.984*	0.003
Ottawa	1.047	0.037	1.324*	0.053	0.894*	0.029	0.941	0.081
Gatineau	1.000		1.000		1.000		1.000	
Social								
Single, divorced, or separated	0.917**	0.040	1.100	0.052	1.524*	0.030	1.889*	0.078
Married or common law	1.000		1.000		1.000		1.000	
College, apprenticeship, or CEGEP	1.000	0.053	1.186*	0.057	0.673*	0.035	0.743*	0.086
University degree	0.816*	0.046	0.237*	0.054	0.131*	0.032	0.187*	0.081
High school	1.000		1.000		1.000		1.000	
Presence of children	1.225*	0.032	1.011	0.042	0.812*	0.025	0.812*	0.072
No children	1.000		1.000		1.000		1.000	
Cultural								
French	1.243*	0.041	0.792*	0.059	1.408*	0.033	1.193	0.092
Bilingual	1.567*	0.034	0.931	0.048	1.218*	0.029	1.023	0.082
Other language	0.332*	0.145	1.269**	0.121	1.110	0.081	1.156	0.226
English	1.000		1.000		1.000		1.000	
Intercept	1.000	0.095	1.000	0.114	1.000	0.068	1.000	0.180
N (unweighted)	16245							
N (weighted)	66160							

LF (d.f) for the final model: 10522.653 (36)*

* p < 0.01.

** p < 0.05

Source: Population Census, 2016. Calculations by author.

²⁷ The last category of each variable was omitted in order to avoid multi-collinearity (Harris & Jarvis, 2014), which occurs when two or more independent variables contain similar information (Leech, Barrett, & Morgan, 2012). New binary 0-1 dummy variables were created for the nominal and ordinal independent variables, and categories were converted into sets of dichotomous variables that indicated the presence or absence of a category (Leech, Barrett, and Morgan, 2012). For example, home language was converted into the variables 0 = French and 1 = not French, 0 = English and French and 1 = not English and French, and 0 = Other language and 1 = not another languages. The category "English" was excluded because it is the reference category, and therefore silent.

Table 21 Multiple logistic regression results for men's occupational outcomes in the Federal Government, Ottawa-Gatineau CMA

Characteristics	<u>Management</u>		<u>Paraprofessional</u>		<u>Administration</u>		<u>Other</u>	
	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
Demographic								
Age (continuous)	1.027*	0.001	0.985*	0.001	0.992*	0.001	1.002	0.002
Ottawa	1.11*	0.037	1.157*	0.042	0.876*	0.038	0.979*	0.062
<i>Gatineau</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Social								
Single, divorced, or separated	0.787*	0.056	0.939	0.053	2.148*	0.044	1.625*	0.075
<i>Married or common law</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
College, apprenticeship, or CEGEP	0.862*	0.057	0.766*	0.043	0.453*	0.044	0.501*	0.058
University degree	1.014	0.050	0.118*	0.042	0.182*	0.039	0.066*	0.063
<i>High school</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Presence of children	1.124*	0.029	1.021	0.032	0.739*	0.030	0.768*	0.051
<i>No children</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Cultural								
French	1.117*	0.040	1.109**	0.046	1.332*	0.042	1.661*	0.071
Bilingual	1.423*	0.034	1.274*	0.039	1.292*	0.038	1.843*	0.061
Other language	0.263*	0.122	0.628*	0.124	0.998	0.090	1.149	0.186
<i>English</i>	<i>1.000</i>		<i>1.000</i>		<i>1.000</i>		<i>1.000</i>	
Intercept	1.000	0.088	1.000	0.087	1.332*	0.081	1.000	0.135
N (unweighted)	14740							
N (weighted)	60315							

LF (d.f) for the final model is: 10267.195 (36)*.

* p < 0.01.

** p < 0.05

Source: Population Census, 2016. Calculations by author.

The differences in occupational attainment between women and men, as well as between Francophones, Anglophones, and bilinguals, who work for the Federal Government are striking. The strong concentration of women in Administrative positions relative to men consistently remains important in descriptive and inferential analyses. The same is true for Francophones and bilinguals in relation to Anglophones: using Professional jobs as the baseline comparator, individuals in these two linguistic groups are more likely to work in the other occupational classes. The one exception to this trend is among Francophone and bilingual women, as they have less than an even odds chance of working in Technical and Paraprofessional occupations. This finding further reinforces the general trend of occupational segmentation among Francophone and bilingual women in Administrative occupations. It is important to ask whether these same trends are also reflected in earnings between women and men and linguistic groups. Does segmentation in terms of jobs also have an influence on earnings between groups, particularly when other social and human capital characteristics are considered? The remainder of this chapter considers these questions.

5.4 Jobs, Labour Market Segmentation, and Employment Income: Differences between Groups

Disparities in employment income for women and men, both between different types of occupations and industries, as well as within individual occupational classes, are well-documented (Hanson & Pratt, 1991; McLafferty & Preston, 1999; Employment and Social Development Canada, 2018; Government of Canada, 2017b; Government of Canada, 2019a). On a national scale in Canada, women are paid 88.5 cents relative to every dollar earned by men (Government of Canada, 2018b). This project reveals that similar trends are evident when

comparing the employment incomes of women and men in Ottawa-Gatineau, and is further complicated when linguistic identity is considered.

5.4.1 Overview of Annual Employment Income across Industries

Distinct differences in earnings are evident between industrial groups for women and men, and especially between linguistic groups (Table 22, 23, and 24). While only 11% of francophone and anglophone women working for the Federal Government earn less than \$37,500 per year, the same is true for 36% and 28% of francophone and anglophone women working in the FIRE and Professional industrial sector. In the Retail sector, there is even stronger clustering of low-wage workers, especially among francophone, anglophone, and bilingual women. At least 70% of women working in this sector earn less than \$37,500, the highest proportion being found among Francophones (78%). Similar patterns are evident among men, although the clustering of men in the lowest wage category is less extreme in each linguistic group compared to women. For example, the majority of men working in the Retail sector earn less than \$37,500 per year, and although the highest proportion is found among francophone men (63%), it remains substantially lower relative to women in this sector.

Most Federal Government workers cluster in the middle to upper-middle income ranges (\$37,500 to \$112,499). When compared to other industrial sectors, there is far less skewing of Federal Government workers toward the lowest income category. In addition, relative to other industrial classes, a substantial proportion of Federal Government workers fall into the highest income category (over \$112,500), although this trend is more pronounced among men than women in each linguistic group. To illustrate, 19% of English- and 16% of French-speaking men earn more than \$112,500 per year, compared to 12% and 8% of women in these two linguistic groups. However, the clustering of Federal Government workers in middle to upper-middle

income categories regardless of gender and linguistic group distinguishes this industrial sector relative to the other comparators.

Table 22 Employment income of anglophone women and men by industrial sector, Ottawa-Gatineau CMA

Gender	Industry	Employment Income				
		0-\$37,499	\$37,500-74,499	\$75K-112,499	\$112,500+	Total
Women	Federal Government	11%	40%	37%	12%	33,540
	Retail, Accommodation, and Food Services	71%	24%	3%	2%	18,355
	FIRE and Professional	28%	46%	17%	9%	21,530
	Health	27%	47%	22%	4%	18,810
	Other	36%	39%	19%	6%	52,460
	Total	32%	39%	21%	7%	144,700
Men	Federal Government	10%	27%	44%	19%	34,765
	Retail, Accommodation, and Food Services	59%	30%	7%	5%	22,845
	FIRE and Professional	21%	31%	23%	25%	28,170
	Health	22%	41%	23%	13%	5,485
	Other	31%	35%	20%	14%	77,165
	Total	28%	32%	24%	15%	168,435
Both	Federal Government	11%	33%	41%	15%	68,305
	Retail, Accommodation, and Food Services	64%	27%	5%	3%	41,200
	FIRE and Professional	24%	37%	20%	18%	49,705
	Health	26%	46%	23%	6%	24,295
	Other	33%	36%	20%	10%	129,630
	Total	30%	35%	23%	11%	313,135

Source: Population Census, 2016. Calculations by author.

Table 23 Employment income of francophone women and men by industrial sector, Ottawa-Gatineau CMA

Gender	Industry	Employment Income				
		0-\$37,499	\$37,500-74,499	\$75K-112,499	\$112,500+	Total
Women	Federal Government	11%	51%	30%	8%	15,860
	Retail, Accommodation, and Food Services	78%	18%	3%	1%	5,950
	FIRE and Professional	36%	45%	13%	5%	4,075
	Health	32%	47%	19%	2%	8,530
	Other	37%	45%	16%	3%	21,505
	Total	33%	44%	19%	4%	55,920
Men	Federal Government	8%	33%	43%	16%	12,635
	Retail, Accommodation, and Food Services	63%	31%	4%	2%	6,765
	FIRE and Professional	25%	35%	22%	19%	4,360
	Health	23%	52%	19%	6%	2,405
	Other	34%	43%	18%	6%	30,785
	Total	30%	39%	22%	9%	56,955
Both	Federal Government	10%	43%	36%	12%	28,495
	Retail, Accommodation, and Food Services	70%	25%	4%	2%	12,715
	FIRE and Professional	30%	40%	18%	12%	8,435
	Health	30%	48%	19%	3%	10,940
	Other	35%	43%	17%	5%	52,290
	Total	32%	41%	20%	6%	112,875

Source: Population Census, 2016. Calculations by author.

Table 24 Employment income of bilingual women and men by industrial sector, Ottawa-Gatineau CMA

Gender	Industry	Employment Income				
		0-\$37,499	\$37,500-74,499	\$75K-112,499	\$112,500+	Total
Women	Federal Government	9%	46%	34%	11%	15,635
	Retail, Accommodation, and Food Services	70%	23%	3%	3%	3,260
	FIRE and Professional	26%	45%	19%	10%	3,725
	Health	24%	50%	23%	3%	4,240
	Other	30%	43%	22%	5%	13,505
	Total	24%	43%	25%	7%	40,355
Men	Federal Government	8%	33%	41%	19%	11,735
	Retail, Accommodation, and Food Services	54%	34%	8%	5%	4,095
	FIRE and Professional	18%	36%	24%	22%	4,380
	Health	24%	43%	23%	9%	1,110
	Other	29%	40%	21%	10%	18,095
	Total	24%	37%	26%	13%	39,415
Both	Federal Government	9%	40%	37%	14%	27,370
	Retail, Accommodation, and Food Services	61%	29%	6%	4%	7,350
	FIRE and Professional	21%	40%	22%	17%	8,105
	Health	24%	48%	23%	5%	5,345
	Other	29%	41%	22%	8%	31,600
	Total	24%	40%	26%	10%	79,770

Source: Population Census, 2016. Calculations by author.

5.4.2 Income Differences in the Federal Government by Gender and Language

Independent sample t-tests²⁸ confirm the patterns revealed by the descriptive analysis and underline the importance of income differences between women and men working in the Federal Government (Table 25). Linguistic identity further emphasizes the disparities in income among women and men in this sector. A mean earnings difference of \$13,343 between francophone women and men is statistically significant ($t=-30.15$, $p=0.0001$), and emphasizes the impact that already discussed differences in occupational status have on overall earnings. Likewise, the \$9,482 earnings difference between anglophone women and men is significant. Importantly, the difference in employment earnings between francophone and anglophone women is also statistically significant. Francophone women overall have an earnings shortfall of \$4,968 relative to anglophone women ($t=15.12$, $p=0.0001$) and \$4,628 relative to bilingual women ($t = -12.55$, $p = 0.01$), whereas the earnings disparity between anglophone and bilingual women is small and insignificant (Tables 25 and 26). Again, this draws attention to the higher proportion of francophone women working in less well-paid occupations in the Federal Government. The gap in earnings between francophone and anglophone men is much narrower (\$1,106) than among women; nevertheless, it is statistically significant ($t=2.69$, $p=0.05$). This gap is slightly higher when comparing francophone and bilingual men, with Francophones earning \$1,438 less on average ($t = -2.94$, $p = 0.01$). These findings underline important gender disparities in earnings between women and men, but also highlight the differences in earnings between linguistic

²⁸ Due to large sample sizes in each group, it was not necessary that the data have normal distributions (Stockemer, 2019, p. 101). SPSS offers an adapted t-test, which relaxes the assumption of equal variances (Stockemer, 2019, p.105). When equal variances could not be assumed, the t-value under the second row marked “equal variances not assumed” (Stockemer, 2019, p.105) was used. In analyzing the results, group means were statistically different when the significance level was 95% or greater. This means that a significant result could have been 5% due to chance (Harris & Jarvis, 2014). A large t-value suggested that there was a considerable difference between group means (Stockemer, 2019, p. 104).

groups in the Federal Government. The concentration of francophone women in Administrative occupations in the Federal Government is reflected in their lower employment earnings relative to anglophone and bilingual women, as well as in relation to anglophone and francophone men.

Table 25 Independent t-test results: Employment income of English- and French-speaking federal public servants, Ottawa-Gatineau CMA

	Women		Men		English-speaking		French-speaking	
	English	French	English	French	Women	Men	Women	Men
Mean	\$76,294	\$71,326	\$85,775	\$84,669	\$76,294	\$85,775	\$71,326	\$84,669
Std. deviation	\$34,680	\$31,970	\$39,639	\$37,414	\$34,680	\$39,639	\$31,970	\$37,414
Mean difference	\$4,968		\$1,106		-\$9,481		-\$13,343	
<i>t</i>	15.12*		2.69**		-33.14*		-30.15*	
N	33,330	14,220	34,320	11,290	33,330	34,320	14,220	11,290

* $p < 0.01$

** $p < 0.05$

Source: Population Census, 2016. Calculations by author.

Table 26 Independent t-test results: Employment income of bilingual, English- and French-speaking federal public servants, Ottawa-Gatineau CMA

	Women		Men		Women		Men	
	English	Bilingual	English	Bilingual	French	Bilingual	French	Bilingual
Mean	\$75,814	\$75,361	\$84,681	\$85,155	\$70,732	\$75,361	\$83,717	\$85,155
Std. deviation	\$35,094	\$33,282	\$40,546	\$38,262	\$32,117	\$33,282	\$37,854	\$38,262
Mean difference	\$453		-\$474		-\$4,628		-\$1,438	
<i>t</i>	1.38		-1.14		-12.55*		-2.94*	
N	33,540	15,635	34,765	11,735	15,860	15,635	12,635	11,735

* $p < 0.01$

** $p < 0.05$

Source: Population Census, 2016. Calculations by author.

5.4.3 Examining the Influence of Gender and Language on Employment Income

To conclude the analysis of gender and linguistic group effects on earnings among individuals working in the federal public service, we examine the relative significance of a group of explanatory variables on employment earnings using multiple regression analysis.²⁹ The

²⁹ For this analysis, the log of employment earnings for individuals is used. A logarithmic transformation of employment earnings was performed in order to transform this variable, which can be highly skewed, into one that approximates a normal distribution. Multiple regression analysis is used to explain the relationship between one continuous dependent variable and two or more independent variables, which can be continuous or categorical (dummy coded, as appropriate) (Cramer & Howitt, 2004). The analysis uses the “Multivariate General Linear Model” function in SPSS, which accommodates the inclusion of interaction terms between two or more explanatory variables.

effects of three explanatory variables that are the focus of this study (language, gender, and occupation) are examined. However, several other human capital and social characteristics on earnings achievements are also included: age, educational attainment, marital status, the presence of children, and residential location. In part, these other variables, which have been found to have a significant relationship to employment earnings in earlier studies (Government of Canada, 2018b; Government of Canada, 2019a; Statistics Canada, 2017b; Ramkhalawansingh, 2017), are included in models in order to gauge the relative importance of language, gender, and occupation. Age is included to capture the effect of experience and skills acquisition over time. Numerous studies have demonstrated the earnings gains associated with higher levels of education for many individuals (Brunello & Comi, 2004; Ornstein, 2011; Tamborini, Kim, & Sakamoto, 2015; Doyle & Skinner, 2016). Marital status and presence of children variables attempt to capture how responsibilities within a family or household may influence employment options, particularly among women who often balance child and elder care responsibilities with paid work (Hanson & Pratt 1995). Since marriage or common-law living arrangements, as well as having children, are often postponed until individuals have completed their education and have relatively stable employment (Schwartz & Zimmerman, 1992; Maher & Saugeres, 2004; Cherlin, 2005; Staff, Harris, Sabates, & Briddell, 2011; Beck-Gernsheim, 2011), it is anticipated that marriage and the presence of children will have a positive influence on reported income. Finally, whether individuals live in Ottawa or Gatineau is also included as an explanatory variable in order to capture to some degree the socio-linguistic differences between the two parts of the metropolitan region (McCall, 2008). Socio-economic status is somewhat lower in Gatineau relative to Ottawa, but this is also where the vast majority of Francophones live in the metropolitan area (Ray & Gilbert, 2020).

As part of the analysis, a forced interaction between two of the variables at the focus of this study (linguistic affiliation and gender) is included in the model. The interaction term attempts to weigh the relative importance of this interaction that has been a focus of attention in this study relative to the independent effects of each variable. The independent categorical variables in the model are entered as dummy variables and both the unstandardized and standardized coefficients are reported. In terms of interpretation, the *unstandardized* coefficients indicate the change in the value of the dependent variable (i.e., employment income) with a unit increment change in the independent variable. While the unstandardized coefficients are relatively straightforward to interpret, the *standardized* coefficients are more meaningful as an indicator of the independent effect of the explanatory variable on the dependent variable when all of the other explanatory variables are held constant.³⁰

Examining first the unstandardized coefficients, the negative effect of being a woman, francophone, and in a lower-skill occupational class on employment income are highly evident. Age, education, and occupational status all have the anticipated directional effects on income. For instance, for each year that age increases, there is an associated \$918 increase in income (Table 27). Likewise, earnings increase as educational attainment increases, and married individuals and those with children at home also have slightly higher incomes. The analysis shows, for instance, the strong earnings benefit to individuals with university-level education in

³⁰ In assessing the models, the standardized regression coefficients were used to compare the effect size of several independent variables on the dependent variable (Sirkin, 2006; Harris and Jarvis, 2014). The size of these coefficients provided an indication of the importance of each independent variable in the regression model (Stockemer, 2019). It also helped determine the relative strength of each independent variable to other variables on the dependent variable “employment income”. The standard error provided an indication of how much variation there was around the predicted coefficient (Stockemer, 2019, p. 156). The smaller the standard error relative to the regression weight, the more certainty there was in the interpretation of the relationship (Stockemer, 2019). The standardized coefficients were considered significant when the significance level was greater than 95%, which allowed for a 5% margin of error. The relative influence of variables was not assessed if they did not meet the 95% benchmark.

the Federal Government: a slightly more than \$19,000 earnings gain relative to individuals with only a high school or less education. It is also important to note that individuals living in Ottawa also have a positive earnings gain relative to their counterparts in Gatineau. This result draws attention to the prevalence of individuals living in Gatineau who hold many of the lower skill and less well-paid occupations in the Federal Government. This result highlights the reality of both linguistic and social differences between Ottawa and Gatineau that construct the social and employment context in this metropolitan region. The earnings gains associated with highly skilled occupations are also evident. Relative to individuals in Professional occupations, the earnings gains for individuals working in Management are strong (approximately \$21,265). In contrast, for individuals working in Administrative positions, earnings are substantially lower – just less than \$16,000 when compared to Professional occupations in the Federal Government. The status of being a woman, however, has a significantly negative effect on earnings (-\$4,920) relative to men (Table 27). In short, these findings are very much in line with other research about gender disparities in earnings (Hersch, 2006; Kaufman, 2010; Lips, 2013; Tharenou, 2013; Polachek, Tatsiramos, & Zimmerman, 2015). Although the descriptive analysis indicates that Francophones overall have lower employment earnings relative to English-speakers, this analysis points to a slight earnings advantage for French-speakers and bilinguals relative to English-speakers in the Federal Government when the other explanatory variables are held constant. However, when the interaction of gender and language is considered, the advantage of francophone or bilingual status falls disproportionately toward men. The earnings of francophone and bilingual women are negative when compared to English-speaking men, and this highlights the financial impact of a concentration of francophone women in lower-skill occupations in the

Federal Government. The earnings gain associated with French-language competency in the Federal Government is largely not enjoyed by francophone or bilingual women.

Table 27 Multiple regression analysis using the natural log of employment income for the Federal Government workforce with forced interactions between gender and language, Ottawa-Gatineau, CMA

Characteristics	Unstandardized	Coefficients	
		S.E.	Standardized
Demographic			
Age (continuous)	918.62*	8.31	0.26
Gender (women)	-4920.63*	238.73	-0.07
<i>Gender (men)</i>			
Ottawa	4116.50*	245.53	0.05
<i>Gatineau</i>			
Social			
Single, divorced, or separated	-6735.10*	201.34	-0.08
<i>Married or common law</i>			
College, apprenticeship, or CEGEP	5052.53*	288.59	0.06
University degree	19393.04*	265.88	0.25
<i>High school</i>			
Presence of children	3179.24*	184.21	0.04
<i>No children</i>			
Cultural			
French	2650.29*	359.61	0.03
Bilingual	5451.99*	337.87	0.06
Other language	-9363.17*	915.82	-0.03
<i>English</i>			
Employment			
Management	21265.60*	260.08	0.21
Paraprofessional	-906.40*	308.36	-0.01
Administration	-15907.57*	229.71	-0.19
Other occupations	-15848.32*	500.52	-0.08
<i>Professional</i>			
Intersections			
Women * French	-1678.10*	438.02	-0.02
<i>Men * French</i>			
Women * Bilingual	-1714.66*	445.31	-0.02
<i>Men * Bilingual</i>			
Women * Other language	-3525.66*	1306.94	-0.01
<i>Men * Other language</i>			
Constant	25757.95	563.11	
R ² value	0.31		
N (weighted)	126480		

* p < 0.01

Source: Population Census, 2016. Calculations by author.

The standardized coefficients also shed light on the relative significance of explanatory variables with respect to earned income. Although all of the variables are statistically significant, as might be anticipated, age, educational attainment, and occupation have strong independent

effects on income. Gender also has a strong, if much more modest, effect relative to these other variables. It is important to underline, however, that although the effect of French and bilingual language status is positive, the overall explanatory effect is relatively modest, especially for unilingual French-speakers. The strongest effect relative to Anglophones is among bilingual workers. Finally, the effect of the interaction between gender and language is fairly weak, which points to the overwhelming significance of the independent effect of gender in influencing employment income for Federal Government workers. When all other factors are held constant, the status of being a woman is an extremely important explanatory factor in accounting for employment income variations among workers. The interaction effect demonstrates that the earnings shortfall among women is strongly evident among these French or bilingual individuals.

As the earlier discussion of occupational segmentation by gender and language indicates, individuals are not randomly sorted across either income ranges or occupations. Women, for instance, are much more likely to be working in Administrative positions in the Federal Government, while a larger share of men is found in high-skill occupations such as Management and Professional positions. At the same time, a larger proportion of francophone women and men work in Administrative occupations relative to their English-speaking counterparts. Not surprisingly, this translates into some important differences in employment earnings between women and men, as well as between Francophones, Anglophones, and bilinguals working in the Federal Government. There are important intersections between language and gender in the workplace, but the ways in which these intersections influence type of work and earnings of women and men merits sustained scrutiny. As this analysis has demonstrated, the simple status of being a Francophone or bilingual is associated with a higher employment income relative to

unilingual English-speakers, but among francophone and bilingual women, their earnings are lower relative to English-speaking men.

5.5 Conclusion

The federal government is a somewhat particular and unusual industrial sector, especially in Ottawa-Gatineau. The sector employs a large number of highly educated individuals, many of whom work in Professional occupations, and the earnings profile for workers clusters strongly in the middle to upper-middle income range. This alone sets the federal government apart from other sectors such as FIRE and Professional and Health in which the proportion of both low- and high-wage earners can be substantially greater. At the same time, the federal government is distinguished by hiring policies that tend to privilege knowledge of Canada's two official languages and encourage employment equity for women and men. Numerous studies have underlined differences in occupational attainment and employment earnings between women and men; however, this study draws attention to the ways in which language further complicates gender inequities. A large share of women work in relatively low-skill and low-wage occupations in the Federal Government (i.e., a range of Administrative jobs), but a larger proportion of francophone women work in these occupations than other gender and language combinations. The kinds of jobs held by individuals affects employment income, and this is strongly illustrated by both descriptive and inferential analyses. Even when a variety of explanatory factors are held constant, the earnings of women in the Federal Government are substantially less than those of men. While being a French-speaker or bilingual improves earnings overall, it is clear that this advantage is experienced more directly by men. Finally, being a resident of Ottawa raises employment earnings relative to individuals residing in

Gatineau, underlining the social and linguistic disparities that manifest geographically in this metropolitan area.

The fact that the federal government in Ottawa-Gatineau has attempted to achieve bilingualism in its workforce inherently has encouraged recruitment of francophone workers who disproportionately live in Gatineau (see Chapter 4). Quite simply, linguistic minorities in any region have a disproportionate likelihood to learn the language of the majority if for no other reason than to improve employment opportunities and to navigate more easily everyday interactions with any number of institutions (Beiser & Hou, 2000; Maynard, 2011; Price, 2014; Victoria, 2017). Hence, Francophones, while not the only source, do represent an important pool of potential bilingual labour in Ottawa-Gatineau. It is clear, however, that Francophones and bilinguals, in bolstering the overall bilingual workforce in the federal public service, also disproportionately occupy lower-skill occupational niches that are generally less well paid than occupations in which Anglophones predominate. Women also disproportionately hold these jobs.

The consequences for francophone women of working in low-wage occupations, of course, extends beyond income inequality. These workers also disproportionately bear costs in terms of longer commutes as the federal government moves to suburbanize the offices of several ministries (see Chapter 4). A bilingual workforce is indispensable for the federal government, but as more offices move to suburban Ottawa, many of the workers who embody bilingualism will face longer and potentially more complicated commutes. Public transit in Ottawa-Gatineau is largely organized with a focus on downtown Ottawa and Hull, with increasingly better access to some of the neighboring suburban employment nodes such as Tunney's Pasture. As Chapter 4 demonstrated, Francophones working for the federal government already have some of the longest commute times, and most certainly travelling from Gatineau to anywhere other than

downtown Ottawa does involve a change in public transportation provider and the negotiation of traffic congestion. Office suburbanization will make work commutes for many Ottawa residents easier, but the negative effects will be born disproportionately by segments of the labour force with relatively low earnings and that are dominated by women who actively use French or both languages in everyday life.

CHAPTER 6

A Case for Future Research on Language, Gender, and Employment in Canada

6.1 Summary of Key Findings

It is valuable to reiterate and briefly elaborate upon the significance of several findings revealed by this study, primarily with respect to commuting patterns of Francophones and Anglophones and the large concentration of women, especially francophone women, in relatively low-pay Administration and Administrative support positions. To this end, local conditions, such as configurations of residential concentration among French, English, and bilingual workers and nodes of federal government employment, cannot be ignored as they suggest an important relationship between where people live and federal government employment nodes. To illustrate, merely being an Ottawa resident increases employment earnings compared to individuals living in Gatineau, underscoring the social and linguistic disparities that manifest geographically across the Ottawa-Gatineau metropolitan area.

The geographic mismatch between the homes of Gatineau residents and federal offices in Ottawa's suburbs result in very different commuting patterns for many Anglophones and Francophones. Gatineau residents are geographically further away from significant locations of federal government work in Ottawa's suburbs. Gatineau residents also must contend with inefficient regional transit systems and traffic congestion on interprovincial bridges during their journey to work. It follows that suburbanizing Ottawa's federal offices are to the detriment of Francophones living in Gatineau, who often experience complicated and inconvenient transit routes and rely more heavily on private transportation. Accordingly, the relationship between home and work should not be discounted to the extent that residential location is organized linguistically.

Equally as important is the federal government's choices concerning desirable human capital characteristics such as language, specific skills, qualifications, and education. While these characteristics are influential in shaping employment trajectories, this thesis project draws particular attention to the role of linguistic proficiency and gender. Based on analysis of 2016 census data, study findings suggest that women are more likely than men to occupy relatively low-pay Administration and Administrative support positions in the federal public service. However, the relationship is considerably stronger for Francophones than Anglophones. Despite the fact that many francophone women are highly educated, this group is more concentrated in Administrative positions and earn less on average than anglophone women. It is also interesting to note that although being French-speaking or bilingual improves earnings overall, men primarily experience this advantage.

The distinctly different results for women and men highlight the importance of gendered analysis when interpreting labour market outcomes, and that such an analysis must extend beyond wage differentials. In this respect, it could be that human capital characteristics have a more significant influence on the employment outcomes for men, thereby minimizing the significance of residential location or language proficiency, especially among the well-educated. However, these results do not intrinsically demonstrate the nuances behind why and how language and gender influence the work lives of women and men differently. Most certainly, further research is warranted, especially studies that adopt a qualitative methodology to assess the meaning and significance of employment experiences.

6.2 Contributions

This thesis makes an empirical contribution to the understanding of how language and gender intersect to influence women's employment outcomes. Most literature about women's

work lives seldom considers linguistic proficiency in relation to other factors that shape career trajectories, such as educational attainment, marital status, and presence of children. In the bilingual region of Ottawa-Gatineau, the study of women's employment cannot be separated from the broader social, economic, and linguistic geography of the region. To this end, the analysis conducted lends credibility to the significance of linguistic proficiency for work in Ottawa-Gatineau's federal bureaucracy. Equally important, this study underlines that gendered analyses of employment status need to scale down from the national or provincial level to consider the particularities of urban labour markets where large numbers of women, as well as Francophones and Anglophones, are employed. As rich as these data and analyses are in demonstrating patterns and relationships, they are only suggestive with respect to the factors that underpin occupational outcomes and employment income among women and men working in the federal government.

6.3 Limitations and Directions for Future Research

The Canadian Census of Population is an outstanding source of data for evaluating differences in employment status across geographic space and between several different social and demographic groups. Few sources can compete with its flexibility in terms of defining groups, comparing geographic areas, or examining the social and demographic characteristics of the places where particular groups live. The 2016 census also has a robust sample size, thereby enabling detailed analysis of language and gender intersection in relation to several other identity markers, such as age, education, marital status, and presence of children. Although the quantitative analysis presented here only hints at the difficulties encountered in obtaining and maintaining suitable employment, future research must focus on why the employment status of

women departs from that of men in significant ways, particularly concerning the uneven benefit of linguistic proficiency and education in the workplace.

It would be valuable to investigate in greater detail how residential location and linguistic proficiency influence the employment choices for women and men. The fact that francophone women are disadvantaged in the workplace further emphasizes the need to re-evaluate the federal government's gender affirmative hiring practices and language policies when a large share of francophone women are found in low-pay Administrative positions. Certainly, francophone women contribute to attainment of both bilingualism and gender parity objectives in the federal government, but their over-representation in some of the lowest paid occupations raises questions about equity of opportunity. It also raises questions about how the geographic concentration of language communities and social status influence employment outcomes among women. A qualitative approach would shed considerable light on how gendered qualities of employment and language barriers shape employment outcomes in particular sectors. For example, in-depth interviews with francophone, anglophone, and bilingual women and men in Ottawa-Gatineau would be valuable in understanding the relationship between home and work, and issues around language demands in the workplace in the federal government sector.

This thesis project is indicative of the need for research that examines the intricacies of relationships between geographic location, linguistic capacity, and gender. In this respect, it is necessary to consider home and work as more than just abstract ideas, and instead focus on the ways in which culture, language, and gender of place underpin opportunities for women and men in local labour markets. To understand the employment status of women, whether highly skilled or not, clearly demands much stronger consideration of the nuanced experiences of women and men in workplaces, as well as differences in experience between official language communities.

As this research project suggests, work and the working lives of women and men are informed and shaped by geographies of residence and work in a large metropolitan area. These complicated geographies merit careful consideration in studies investigating the social, linguistic, demographic, and economic factors influencing occupation and employment income outcomes for women and men working in Canada.

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