GENDER, SPACE, AND PRECARIOUS EMPLOYMENT IN CANADA

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ABSTRACT
This study aims to examine how gendered precariousness is spatially patterned across Canada's landscape using Statistics Canada's Labour Force Survey. We compare gender differences in distinct precarious forms of employment (PFEs) across a range of geographies, including national, provincial, census metropolitan areas, and urban/rural areas. We find that distinct spatial patterns and degree of gendered precariousness were evident within and across geographic spaces. Logit models further confirmed the robustness of gender differences in PFEs across space, revealing that PFEs were associated with gender, immigration status, age, type of economic family, education, income, and occupation. This study has implications for further understanding the causal factors at play in producing these uneven economic geographies. In terms of policy recommendations, this study calls for greater gender equity in social safety net policies, especially in the wake of the labor market shocks brought by the COVID-19 pandemic.

Key words: gender; precarious forms of employment; nonstandard employment; Canada; space; multiscalar analysis

INTRODUCTION

In Canada, there are evident disparities in the labor market outcomes and experiences between and within women and men (Benoit 2000; Vosko 2000; Cranford *et al.* 2003a, 2003b; Cooke-Reynolds & Zukewich 2004; Vosko *et al.* 2009; Moyser 2017). For instance, women in Canada (relative to men), work fewer hours of paid work per week (on average), experience periodic interruptions in their careers, are over-represented in the service sector, earn less and are employed in lower occupational levels than men in female-dominated occupations (Moyser 2017). Other indicators of gendered labor market activity in Canada show that despite women's increased labor force participation, they are more likely to be employed in precarious employment compared with men (Vosko 2000; Fudge & Vosko 2001; Cranford *et al.* 2003b). By and large, precarious employment is a term used to describe nonstandard employment that is associated with dimensions of low income, lack of control over the labor process, high levels of uncertainty, and lack of regulatory protection (Rodgers 1989).

The disproportionate share of women in precarious employment is best explained by the feminization thesis or the global feminization of employment thesis (Vosko 2000; Cranford *et al.* 2003b). The increased participation of women in the workforce is the first feature of the feminization thesis (Vosko 2000; Cranford *et al.* 2003b). Studies in Canada have shown that despite women's increased participation in the labor force, they are more likely to work on a part-time basis and disproportionately represented in unpaid work (i.e., housework and caregiving) (Moyser 2017; Moyser & Burlock 2018). Vosko (2000, p. 39) further explains that the increased participation of women in the labor force indicates a "triple shift" of paid work, housework work, and emotional work "rather than a shift from economic inactivity to economic activity." Breene and Cooke (2005) find that the gendered division of labor will continue to persist (despite women's increased labor force participation) until there is greater gender equality within society. This involves the greater proportionality of both economically autonomous women and men with nontraditional gender role ideologies (Breene & Cooke 2005). The gendering of work describes the second feature of the feminization thesis where conditions of employment for some men have deteriorated ("harmonizing down for some men" Vosko 2000, p. 39) while women continue to experience greater economic pressure (Vosko 2000; Cranford *et al.* 2003b). Cranford *et al.* (2003b) state that this feature of feminization is highly experienced by racialized men, recent immigrant men, and young men. The third feature of the feminization thesis includes persistent occupational and industrial gender segregation (Vosko 2000; Cranford *et al.* 2003). Studies in Canada have shown that women continue to be entrenched in gender-segregated labor markets (horizontal segregation) and concentrated in precarious service-producing sectors that parallel their traditional gender roles (e.g., health care and social assistance, educational services, and accommodation and food services) (Moyser 2017). Across industrialized economies, horizontal gendered segregation has been demonstrated to compound inequalities within labor markets through the devaluation of women's work roles (Cohen & Huffman 2003). Lastly, increased income and occupational polarization between and within women and men is the fourth feature of the feminization thesis (Vosko, 2000; Cranford *et al.* 2003b). Vosko (2000) declares that this feature of feminization is influenced by age, immigration status, and race. In Canada, Block *et al.* (2019) find that racialized immigrant men and women earn less per dollar earned by their same-sex and race counterparts.

In spite of the plethora of research on the feminization of precarious employment, there is a paucity of empirical studies on the spatial conceptualizations of gendered precariousness within the Canadian realm. Most Canadian studies that examine the geographies of labor market inequality have often neglected the integration of gendered precariousness despite precarious work having a spatial dimension that creates and maintains the distribution of this type of employment, including by gender (MacDonald 2009). Moreover, to the best of our knowledge, no study has empirically taken a multiscalar spatial perspective of the gendered dimension of precarious employment despite the significance of "a scalar analysis [in bringing- *emphasis added*] the importance of space to the forefront, as the socially produced scales of regulation, policy discourse, and individual action interact with geography" (MacDonald 2009, p. 211). As such, we argue that much can be learned from a greater focus on how precarious forms of employment (PFEs) can vary when it comes to levels of geography and to demographic variables that have already been examined such as gender.

In line with this, we investigate the gender differences in distinct PFEs across a spectrum of spatial scales (including the national, provincial, census metropolitan area (CMA), and urban/rural scale) and geographies. We also investigate the degree of precariousness (measured by the overlap in indicators of low income, no union coverage, and employment in small firms) within distinct PFEs by gender across spatial scales that meet disclosure requirements of Statistics Canada (national and provincial scale). In the current paper, we identify PFEs as employment relationships that deviate from the standard employment relationship (SER), associated with an element of labor market insecurity that according to Fuller and Vosko (2008), characterizes precarious employment. These PFEs include temporary employment (persons in seasonal, term/contract, casual, and temporary agency work), part-time employment (persons who usually work less than 30 hours per week at their main/only job), involuntary part-time employment (persons who want and looked for full-time work but are employed in part-time work for economic reasons), and multiple job holders (persons who are employed in two or more nonstandard jobs simultaneously).

It is imperative to note that there are variations in the degree of precariousness within and among the aforementioned PFEs. These

PFEs, however, share one common dimension of precariousness i.e., labor market insecurity (Rogers 1989). Due to data availability in census datasets and the disclosure requirements of Statistics Canada, we were unable to examine the interactions between PFEs and other indicators of precariousness (e.g., indicators of low income, regulatory protection, and control) specifically across smaller spatial scales (e.g., CMAs). As such we primarily rely on broad forms of measures of precarious employment as proposed by Krahn (1995) across all spatial scales. However, where data are available (national and provincial scale), we investigate the degree of precariousness within distinct PFEs by gender.

While we acknowledge that other factors such as migration and ethnicity exacerbate precariousness (Noack & Vosko 2011; Premji *et al.* 2014), we pay close attention to gender in our conceptual approach based on the role of gender as an "organizing feature of differentiation" in the Canadian labor market (Vosko 2003). Gender differentiation has been visible in the Canadian labor market since the post–World War II period with the standard employment relationship (SER) (permanent full-time employment protected by collective bargaining arrangements), associated with a "masculine" norm, while NSER (employment that diverges from the norm of permanent full-time work with limited collective bargaining rights and low wages) associated with a "feminine" one (Vosko 2000, 2003). The broader labor market inequalities between and within women and men are still evident in Canada (Cranford *et al.* 2003b; Vosko 2003; Premji *et al.* 2014). These inequalities/gender differentiations continue to be perpetuated in Canada's labor market by policy mechanisms, employer practices, legal instruments, and social and institutional processes (Gottfried 2000; Vosko 2003).

Using Statistics Canada's 2011–2016 Labour Force Surveys (LFS), the objective of this paper is to understand how gendered PFEs are patterned across and within Canada's geographies. To achieve this, we (i) examine gender differences in the spatial patterning of PFEs in Canada, focusing on a suite of geographic scales, including the national, provincial, CMA, and urban/rural scale; (ii) investigate the degree of precariousness within distinct PFEs and gender lines; (iii) explore sociodemographic, socioeconomic, and spatio–temporal correlates of PFEs (including by dimensions of low income and mid/high income), and assess the robustness of gender differences in PFEs across space when controlling for sociodemographic, socioeconomic, and temporal effects. Exploration of each of these aims advances our knowledge of precarious employment and its spatial and gendered contours in Canada. This has implications for further understanding the contextual factors at work in explaining the observed gendered spatial patterns.

LITERATURE REVIEW

Mapping gender differences in precarious employment – Within the literature, it is well documented that there are varying differences in the degree of precariousness experienced by women and men with respect to their sociodemographic and socioeconomic profiles. For instance, studies have shown that immigrants compared with Canadian-born populations appear to be disadvantaged in the labor market as they continue to experience downward occupational mobility (Creese & Wiebe 2012); lower wages (Aydemir & Skuterud 2005; Frenette & Morrissette 2005); undervaluation of their human capital (Li 2003; Ferrer & Riddell 2004; Premji *et al.* 2014), and a greater propensity of employment in precarious work (Noack & Vosko 2011; Ali & Newbold 2020). Other studies affirm that immigrant women continue to be deskilled in the labor market and are streamed into PFEs at a relatively higher share than immigrant men (Man 2004; Fuller & Vosko 2008; Noack & Vosko 2011; Hira-Friesen 2018). Premji *et al.*'s (2014) study in Canada finds that racialized immigrant women in precarious employment experience social (e.g., lack of affordable childcare and burdens associated with household work) and systematic barriers (e.g., limitations to access of information and services) that limit them in attaining stable work. More recent studies have shown how wage gender discrimination in the Canadian labor market is gendered and racialized (Cranford *et al.* 2003b; Block *et al.* 2019). Block *et al.* (2019) study in Canada reveals that racialized women (compared with nonracialized women) earn 59 and 67 cents respectively for every Canadian dollar than nonracialized men earned. Furthermore, racialized immigrant women earned 79 cents for every Canadian dollar earned by nonracialized immigrant women (Block *et al.* 2019). These disparities in wages were found to persist in the following generations (i.e., second and third generation and more) with Black, Filipino, and Latin American racialized groups having the largest earning gaps across generations (Block *et al.* 2019).

On age, Bessant *et al.*'s (2017) research examining trends across industrialized economies (America, Britain, Australia, France, and Spain) explains that younger workers have long faced an economic disadvantage relative to older workers. In Canada, this economic disadvantage also translates to greater representation in low paid precarious work of younger workers (Cranford *et al.* 2003a, 2003b; Fuller & Vosko 2008; Ali *et al.* 2020). Cranford *et al.* (2003b) find that precarious work is common for younger women and men in Canada but decreases along the continuum of increasing age for both genders.

With respect to education, the discourse on human capital theory makes the case that investment in education leads to increased worker productivity and hence greater returns in the labor market with respect to income (Schultz 1961; Becker 1994). This causality has nevertheless drawn some criticism in the literature (see Solow 1965). Bessant *et al.* (2017), for instance, argue that tertiary-educated young workers remain unemployed and underemployed and earn lower wages than prior generations. Bessant *et al.* (2017) further state that concerns of unemployment, underemployment, and stagnating wages for educated workers have to deal with the lack of available good jobs in the labor market (i.e., they point to a demand-side problem as opposed to a supply-side). They further argue that because of structural labor market changes induced by the emergence of the gig economy, there is a growing mismatch between workers' educational qualifications, skills, and the number of decent jobs available to tertiary-educated workers. Gender differences in returns to human capital are also examined by Young (2010) in the United States who finds women less likely to be rewarded for their invested human capital (education qualifications) compared with men. Relatedly, Young (2010) uses gender stratification theory to rationalize how family-related investments (including marital status, number of children, and time on childcare and housework) increase the probability of women's engagement in precarious work compared with men.

The uneven geographies of gendered precariousness – Numerous studies have taken a multidimensional approach when making important connections between space, gender, and labor market outcomes (Hanson & Pratt 1991, 1995; Massey 1994; Sackmann & Haussermann 1994; Hanson *et al.* 1997; Gilbert 1998; Peck & Theodore 2001; De Raaf *et al.* 2003; Fernandez & Su 2004; MacDonald 2009, McDowell *et al.* 2009; Patterson 2018; Taylor *et al.* 2019). These works can be agglomerated into the following factors that shape in one way or another the gendered spatial patterns of PFEs. They include local industry structures, local economic conditions, industrial relations, social/cultural processes, and geographic mobility patterns.

On local industry structures, a handful of studies have shown a correlation between the industrial composition within a region and the distribution of PFEs (De Raaf *et al.* 2003; Jacquemond & Breau 2015; Ali & Newbold 2021). In Canada, Ali and Newbold (2021) note that geographies characterized by a high share of industries specific to the primary sector such as agricultural job holdings were positively associated with temporary/seasonal work. Across Canada's landscape, seasonal industries are more concentrated in Atlantic Canada (including the provinces of Newfoundland and Labrador, Prince Edward Island, New Brunswick and Nova Scotia) than any other region and over-represented by men (De Raaf *et al.* 2003). We expect the likelihood of temporary employment to increase across Atlantic Canada relative to other regions, with a higher share of men than women employed in this type of work. However, we also expect women in temporary employment to have a higher degree of precariousness in Atlantic Canada compared with their male counterparts. Seasonal work also tends to be a defining feature of rural geographies in Canada (Rothwell 2002; MacDonald 2009). On gender disparities within rural labor markets, Curto and Rothwell (2003) find that rural women tend to be less active in the labor force with a small share working in full-time employment compared with rural men and urban women (Curto & Rothwell 2003).

The service-producing sector on the other hand is unevenly concentrated within Canada's Census Metropolitan Areas (CMAs) and, particularly in Toronto, Montreal, Vancouver, Calgary, and Winnipeg (Statistics Canada 2021a). The service sector contributes to the largest share of employment and Gross Domestic Product (GDP) in Canada (Statistics Canada 2021b). Further, women are more likely than men to be employed on a part-time basis within service jobs across Canada's provinces (Moyser 2017; Patterson 2018; Statistics Canada 2021c). Moyser (2017) further finds that women relative to men are concentrated in specific service industries namely, health care and social assistance (82.4%), educational services (69.3%), and accommodation and food services (58.5%). On a related note, most core aged women (aged 25 to 54) who were employed in multiple jobs were also found to be working part-time as their main job within the aforementioned service industries (Moyser 2017). Due to the high concentration of service-producing sectors in populous central (Ontario and the French-speaking province of Quebec) and western Canada (Manitoba, Saskatchewan, Alberta, and British Columbia) that are likely occupied by women relative to men, we expect the likelihood of employment in part-time and multiple jobs to increase westward across populated CMAs, with more women employed in part-time and multiple jobs than men. The Atlantic region is also concentrated by a precarious service sector and exhibits high underemployment and low-income rates (MacDonald 2009; Ali *et al.* 2020). As such we expect the degree of precariousness in part-time work for both genders to be higher across Atlantic Canada than in any other Canadian region.

Local economic conditions have also been empirically demonstrated to shape the spatial patterning of PFEs. In France for instance, Jacquemond and Breau (2015) observed that urban and rural areas with high unemployment rates were associated with PFEs, namely fixed-term contracts, part-time work, temporary work, and subsidized work. Similarly, in Canada regions and CMA/CAs characterized by high unemployment rates tend to have a greater likelihood of workers employed on a temporary basis (Ali & Newbold 2021). This holds more in Canada's Atlantic region (higher unemployment than the national average) and regions outside large population centers (urban areas) where unemployment rates are also high. Noreau (1994) insists that the involuntary part-time rate of a region moves in tandem with the business cycle of that region such that when economic growth is weak (i.e., high unemployment rates, low GDP), full-time work tends to decline while involuntary part-time work increases. This is because workers are confined to accepting part-time work involuntarily even if they favored working on a full-time basis (Noreau 1994). Relatedly, regions with weak economic growth such as Atlantic Canada tend to have core aged part-timers (mostly men) indicating economic reasons as the reason for their work schedule (Patterson 2018). In accordance with these findings, we hypothesize that the likelihood of involuntary part-time employment increases eastwards toward the Atlantic region for both men and women with higher shares and degree of precariousness reported for men relative to women across all regions where data are available.

With respect to Industrial relations (unionization), MacDonald (2009) points that regions with high unemployment rates are associated with other dimensions of precariousness such as lower average wages and unionization rates. A suite of other studies have shown a decreasing trend (from 1981 to 2012) in union density across Canada's provinces, with notable declines recorded for men relative to women (Galarneau & Sohn 2013; Scrimger 2020). Union coverage rates in Canada generally tend to be low in industries (e.g., agriculture, accommodation, and food services, and other service industries) that are generally characterized by precarious work (Galarneau & Sohn 2013). This trend also seems to hold within the UK labor market (Wright 2013).

This surveyed literature provides an important foundation for understanding why space might affect gendered labor market outcomes. These studies are, however, limited to spatial disparities in gendered labor market outcomes within a single medium-sized metropolitan area. Moreover, missing from the surveyed literature is how gendered PFEs manifest across space within the Canadian realm. The broader significance of understanding the spatiality of precarious work has been echoed by MacDonald (2009) and Strauss (2018). We investigate the spatial dimensions of PFEs across gender lines and space. First, we map how PFEs across gender lines vary across multiple spatial scales (national, provincial, CMA and urban/rural) and geographies. Second, we investigate the degree of precariousness within distinct PFEs and gender lines across the national and provincial scale that meet disclosure requirements of Statistics Canada. Third, we explore the sociodemographic, socioeconomic, and spatio–temporal correlates of PFEs (including by dimensions of low income and mid/high income), and assess the robustness of gender differences in PFEs across space when controlling for sociodemographic, socioeconomic, and temporal effects.

METHODS

Data source, study population, and study design – The empirical analysis in this study used data drawn from Statistics Canada's 2011–2016 LFS. This survey provides monthly, nationwide estimates on Canada's labor market activities. Data in the LFS are collected from a sample of 54,000 households (approximately 100,000 individuals) across all geographies. Labor market information is obtained nationwide from every member of a selected household who is noninstitutionalized and 15 years of age or older, irrespective of their employment status. Populations in Aboriginal reserves, remote areas, institutions, and full-time members of Canadian Forces are excluded (≤2% of the national population). In this study, the target population is restricted to include women and men who are 25–64 years of age, employed in the workforce, and not full-time students. With respect to sampling, the LFS survey employs a cross-sectional design. Moreover, as the LFS uses a rotating panel sample design, this results in a 5–6 month-to-month sample overlap. To ensure that the sample for any given year does not overlap and consists of only unique Household Identifications (HHIDs), 2 months of each year from 2011 to 2016 were selected, namely January and July. In total, data from 12 months were pooled, with each month and year consisting of unique respondents.

Statistical analyses – In this study, we primarily measure precarious employment using a form measure (i.e., temporary employment, part-time employment, involuntary part-time employment, and employment in multiple jobs) across all spatial scales and geographies. Where data are available (at the national and provincial scale), we examine the degree of precariousness within distinct PFEs by gender. Indicators of precariousness used to calculate the degree of precariousness are based on Rodgers's (1989) dimensions of precariousness which include low income, lack of control over the labor process, and lack of regulatory protection. In the context of this study, the dimension of low income is based on the Organization for Economic Co-operation and Development (OECD) definition of low income which includes household earnings less than 75 per cent of the median equivalized household income. The dimension of lack of control over the labor process is based on the absence of union coverage while the dimension of lack of regulatory protection is based on the composition of a firm size with less than 20 persons employed because labor legislation does not necessarily apply to this firm size (Cranford *et al.* 2003b).

The universal denominator used to calculate temporary, and multiple jobs include persons currently employed. Part-time and involuntary part-time employment are treated as two separate variables in the LFS. Part-time workers include persons who worked less than 30 hours a week. The universal denominator used to calculate part-time employment includes persons currently employed including full-time workers. Involuntary part-time workers on the other hand include persons who want and looked for full-time work but are employed in part-time work for economic reasons. The universal denominator used to calculate involuntary part-time employment includes persons currently employed part-time including; (i) Persons who want full-time work but did not look for full-time work and are employed in part-time work for economic reasons. (ii) Persons who want full-time work but are employed in part-time work for a non-economic reason, and (iii) Persons who do not want full-time work. All denominators used to calculate PFEs came from the LFS. Descriptive statistics was performed using SAS 9.4 to characterize PFEs and their degree of precariousness by gender at the national, provincial, CMA, and urban/rural geographic levels. In addition to the CMA scale, we also examined spatial variations in precarious employment across the urban–rural spectrum. Table 1 presents the subgeography definitions across the urban–rural spectrum.

Across all cross-tabulations, the final weights were used to ensure that the population counts better represent the target population or census projections. The PFEs examined in this study are not mutually exclusive because of disclosure limitations, specifically at the CMA level. Similarly, because of disclosure limitations within smaller spatial scales, we were limited in examining the spatial effects of other PFEs including own-account self-employment, and individual subtypes of temporary employment such as seasonal, term/contract, casual, and temporary agency work. As such we combined all subtypes of temporary employment into one unified form of temporary employment. All subclassifications of temporary employment are nested as one variable in the LFS survey.

Logistic regression models were then used to assess the relationship between PFEs and a set of explanatory variables including sociodemographic, socioeconomic, spatial (interacted with gender), and temporal variables. Respondents in standard employment are the reference group for the dependent PFE variables in the logit models. Logit models were further used to assess the robustness of gender differences in distinct PFEs[1] across space when controlling for sociodemographic, socioeconomic, and temporal effects. All independent and dependent variables were dummy coded. We weighted all logit models using the normalized LFS final weight and the LFS Rao-Wu bootstrap weights (1000 replicate weights).

DESCRIPTIVE RESULTS

National scale – At the national scale (Table 2), women were generally highly represented in PFEs relative to men. Part-time work and involuntary-part-time work were the most common PFE for women (19.7%) and men (17.2%) respectively. Within both genders, a higher degree of precariousness was reported for women and men in part-time and involuntary part-time work compared with women and men in other PFEs. Multiple jobholding on the

Table 1. *LFS sub-geography definitions.*

Term	Definition
CMA/CA Urban Code/Core	A large urban area around which a CMA or a CA is delineated. The urban core must have a population (based on the previous census) of at least 50,000 persons in the case of a CMA, or at least 10,000 persons in the case of a CA
CMA-CA Secondary Urban Core	The urban core of a CA that has been merged with an adjacent CMA or larger CA
CMA/CA Urban Fringe	Includes all small urban areas within a CMA or CA that are not contiguous with the urban core of the CMA or CA
CMA/CA Rural	All territory within a CMA or CA not classified as an urban core or an urban fringe
Non-CA Urban	Small town population centres
Non-CA Rural	Include rural and small-town census rural areas outside population centres

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Table 2. *Weighted percentages and degree of precariousness for PFEs at the national level by gender, 2011–2016.*

	Women	Men	Difference (Diff.)
Share of PFEs[1]	%	%	
Degree of precarioussness[2]	(%)	(%)	*p*-value
Temporary employment	9.7 (9.5)	8.9 (5.0)	<0.0001
Involuntary part-time employment	10.0 (19.4)	17.2 (25.1)	<0.0001
Part-time employment	19.7 (19.9)	6.0 (20.2)	<0.0001
Multiple job holders	5.8 (9.4)	4.2 (3.3)	<0.0001

[1]*Two-tailed test are used to determine statistically significant differences (diff.) between women and men.*
[2]*Overlap between indictors of precarious employment i.e., low income, no union coverage, and employment in small firm size (<20).*

other hand was the least common PFE for both women and men (5.8% vs 4.2% respectively, $p < 0.0001$).

Provincial scale – At the provincial scale (Table 3), we find that temporary employment was more common for men than women across the Atlantic provinces. The province of Newfoundland and Labrador had a significantly higher share of men employed on a temporary basis than women (22.5% vs 17.2%, respectively, $p < 0.0001$) relative to any other province. Moving westwards we observe a decreasing prevalence in temporary work, specifically central Canada's province of Ontario, and the prairie province of Manitoba had the lowest share of both women and men in temporary work (8.6% vs 7.6%, respectively, $p < 0.0001$ for Ontario and 8.9% vs 6.8% respectively, $p < 0.0001$, for Manitoba). Gradual increases in temporary work across both genders were observed moving westward from central Canada's provinces with women significantly more likely than men to be employed on a temporary basis across the western provinces. Women across all provinces were found to have a higher degree of precariousness than their male counterparts where data were readily available (i.e., Nova Scotia and New Brunswick).

Involuntary part-time work was more typical for men in Atlantic Canada provinces relative to women (specifically Prince Edward Island; 26.0% vs 18.4% respectively, $p = 0.0017$) and became progressively less prevalent moving westward for both genders. However, unlike temporary work, men were significantly over-represented in involuntary part-time work across all provinces and had a higher degree of precariousness (compared with women).

Part-time work was more common for women and men in western Canada and least common in Atlantic Canada. Specifically, the share of both women and men employed on a part-time basis in British Columbia (24.6%, vs 7.6%, respectively, $p < 0.0001$) was the highest compared with other Canadian provinces, while Newfoundland and Labrador were the lowest (15.2% for women, vs 3.6% for men, $p < 0.0001$). Across all provinces, part-time employment was significantly more widespread for women than men. With respect to the degree of precariousness, both women and men had higher degrees of precariousness across Atlantic Canada provinces in relation to other provinces.

Employment in multiple jobs was more widespread in the western provinces of Canada for both women and men and less common across the Atlantic provinces. Similar to part-time work, women were significantly more likely than men to be employed in multiple jobs across all provinces. Women also experienced a higher degree of precariousness in

Table 3. *Weighted percentages and degree of precariousness for PFEs at the provincial level by gender, 2011–2016.*

	Temporary employment			Part-time employment			Involuntary part-time employment			Multiple job holders		
Geography	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.
Share of PFE[1]	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value
Degree of precarioussness[2]	(%)	(%)		(%)	(%)		(%)	(%)		(%)	(%)	
Newfoundland and Labrador (NL)	17.2 (10.4)	22.5 (x)	<0.0001	15.2 (29.1)	3.6 (23.7)	<0.0001	16.8 (31.8)	21.7 (x)	0.0390	4.2 (x)	3.0 (x)	<0.0001
Prince Edward Island (PE)	17.7 (8.4)	19.1 (x)	0.0380	15.9 (23.9)	5.5 (23.9)	<0.0001	18.4 (26.7)	26.0 (x)	0.0017	6.1 (x)	5.1 (x)	0.0058
Nova Scotia (NS)	12.0 (7.7)	13.1 (5.2)	0.0070	19.2 (19.8)	6.5 (23.4)	<0.0001	12.0 (23.0)	18.7 (x)	<0.0001	5.7 (10.1)	4.0 (x)	<0.0001
New Brunswick (NB)	11.5 (10.0)	15.4 (3.8)	<0.0001	16.5 (24.0)	4.6 (24.7)	<0.0001	12.3 (25.6)	19.0 (x)	<0.0001	4.9 (12.9)	3.3 (x)	<0.0001
Québec (QC)	10.5 (8.5)	10.2 (5.3)	0.1811	18.2 (21.6)	6.3 (21.7)	<0.0001	6.9 (27.9)	13.3 (28.5)	<0.0001	4.0 (14.0)	3.7 (5.4)	0.0029
Ontario (ON)	8.6 (10.1)	7.6 (5.4)	<0.0001	19.0 (18.7)	6.0 (19.3)	<0.0001	12.9 (15.2)	20.3 (23.2)	<0.0001	5.9 (8.1)	4.3 (2.3)	<0.0001
Manitoba (MB)	8.9 (10.3)	6.8 (5.1)	<0.0001	21.3 (17.9)	5.9 (16.6)	<0.0001	8.1 (18.7)	13.4 (x)	<0.0001	7.7 (7.1)	5.9 (x)	<0.0001
Saskatchewan (SK)	10.6 (8.3)	8.1 (4.3)	<0.0001	20.8 (20.6)	5.2 (19.3)	<0.0001	6.1 (x)	13.9 (x)	<0.0001	8.2 (9.6)	6.1 (x)	<0.0001
Alberta (AB)	9.2 (7.3)	7.7 (2.8)	<0.0001	20.5 (17.3)	4.5 (16.9)	<0.0001	7.1 (15.9)	15.7 (x)	<0.0001	7.0 (7.3)	4.3 (x)	<0.0001
British Columbia (BC)	10.3 (12.1)	8.5 (6.7)	<0.0001	24.6 (21.1)	7.6 (21.5)	<0.0001	9.4 (21.3)	17.3 (29.6)	<0.0001	6.6 (10.0)	4.3 (x)	<0.0001

[1]*Two-tailed test are used to determine statistically significant differences (diff.) between women and men.*
[2]*Overlap between indictors of precarious employment i.e., low-income, no union coverage and employment in small firm size (less than 20). (x) = indicates that the sample is too small for disclosure.*

multiple jobs compared with men across all provinces where data were available. In the prairies, Saskatchewan had the highest rates of both women and men employed in multiple jobs (8.2%, vs 6.1%, respectively, $p < 0.0001$). Alternatively, employment in multiple jobs was least common in the Atlantic province of Newfoundland and Labrador for women and men (4.2%, vs 3.0%, respectively, $p < 0.0001$).

CMA scale – At the CMA scale (Table 4), temporary employment was common for both women and men in Atlantic Canada's CMAs followed by the easternmost CMAs of central Canada and low in Ontario's south-central CMAs. Within the Atlantic CMAs, more men were employed on a temporary basis than women (except for Halifax, NS). Atlantic Canada's CMA of St. John's, NL stood out with the highest prevalence of women and men (12.7% and 14.4%, respectively, $p = 0.0262$) in temporary work compared with other CMAs. The lowest temporary employment shares for both women and men were observed in the central Canada CMA of Oshawa (6.0 and 5.4%, respectively $p = 0.265$). We also noted that women had a gradual increase in temporary work moving westward across western Canada's CMAs compared with men.

With respect to Involuntary part-time employment, a higher share of men were employed in this type of work compared with women in all CMAs where data was readily available. Moreover, we find that CMAs in central Canada (specifically Ontario) had greater gender disparities and were represented by a higher share of both women and men employed on an involuntary basis relative to other CMAs. Specific for CMAs in Ontario, Windsor stood out with the highest percentage of both women and men employed on an involuntary part-time basis (16.1% vs 28.7% respectively, $p = 0.0002$). Despite these trends, it was difficult to make spatial comparisons between genders across Canada's CMAs due to a sizable number of CMAs having sample sizes that were too small for disclosure.

Part-time work was more common for women and men in western Canada and least common in Atlantic Canada. For example, the share of both women and men employed on a part-time basis in St. John's, NL was the lowest amongst the Canadian CMAs (12.1%, vs 3.7%, respectively, $p < 0.0001$, respectively). Conversely, the share of women in Abbortsford-Mission, BC (25.8%) and men in Victoria, BC (9.3%) were the highest in comparison to other regions. CMAs in central Canada had the greatest variations in part-time work across both genders. In general, part-time employment was more common for women than it was for men at the CMA scale.

Like part-time work, employment in multiple jobs for both women and men tend to be greater on average in CMAs located in western Canada's provinces and least common in the easternmost CMAs of central Canada provinces (e.g., Quebec's CMAs), followed by Atlantic Canada's CMAs. Quebec's CMAs stood out in terms of having the lowest share of both women and men employed in multiple jobs compared with CMAs in other regions. Specifically, Saguenay, QC was one of the CMAs that was least represented by both women and men employed in multiple jobs (3.6% vs 2.5%, respectively, $p = 0.0182$). Although a West to East spatial difference was evident, specific CMAs in central Canada were distinct with respect to having a high percentage of their population working multiple jobs. For example, Kingston, ON, reported high portions of women and men employed in multiple jobs relative to other CMAs (8.0%, vs 6.1%, respectively, $p = 0.0013$, respectively). We also note that women, in general, were over-represented in multiple jobs across Canada CMAs relative to men.

Urban/rural scale – Within the urban–rural spectrum (Table 5), we note that in general both women and men were overrepresented in PFEs within rural areas. Women were significantly overrepresented in part-time and multiple jobs within rural areas and broadly across the urban–rural spectrum compared with men. Men, on the other hand, were found to occupy temporary jobs within rural areas at a higher portion than women (13.6% vs 12.0%, respectively, $p < 0.0001$). Men were also significantly more likely to be employed in involuntary part-time work across the urban–rural spectrum where data were available.

Table 4. *Weighted percentages for Canada's population engaged in PFE by gender, across CMAs 2011–2016.*

	Temporary employment			Part-time employment			Involuntary part-time			Multiple job holders		
	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.
Geography	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value
St John's, NL	12.7	14.4	0.0262	12.1	3.7	<0.0001	x	x	–	4.3	3.9	0.3690
Halifax, NS	10.4	9.1	0.0151	17.0	6.1	<0.0001	10.3	16.7	0.0017	5.9	4.1	<0.0001
Moncton, NB	8.9	9.5	0.4806	14.5	5.5	<0.0001	x	x	–	5.0	3.5	0.0062
Saint John, NB	8.1	11.6	0.0002	16.0	4.1	<0.0001	x	x	–	5.3	3.5	0.0026
Saguenay, QC	12.0	11.2	0.3988	22.4	5.6	<0.0001	x	x	–	3.6	2.5	0.0182
Quebec, QC	11.9	11.1	0.2977	15.0	6.0	<0.0001	x	x	–	3.9	3.9	0.9898
Sherbrooke, QC	11.1	10.9	0.8400	22.0	8.2	<0.0001	x	x	–	5.0	4.3	0.1766
Trois-Rivieres, QC	9.8	9.9	0.9288	21.8	6.9	<0.0001	x	x	–	3.9	3.8	0.8737
Montréal, QC	10.2	9.3	0.0299	17.2	6.6	<0.0001	7.6	13.4	<0.0001	3.8	3.8	0.8760
Gatineau, QC	10.0	10.7	0.2801	12.2	6.2	<0.0001	x	x	–	3.9	3.8	0.8764
Ottawa, ON	10.7	7.5	<0.0001	16.1	6.4	<0.0001	11.9	19.2	0.0026	5.5	5.0	0.2930
Kingston, ON	8.7	11.2	0.0007	20.3	8.7	<0.0001	12.1	20.9	0.0006	8.0	6.1	0.0013
Peterborough, ON	8.8	9.5	0.6208	23.0	10.1	<0.0001	x	x	–	x	x	–
Oshawa, ON	6.0	5.4	0.2650	20.0	4.9	<0.0001	x	x	–	5.4	3.2	<0.0001
Toronto, ON	9.1	7.5	<0.0001	16.5	5.7	<0.0001	15.0	22.6	<0.0001	5.3	4.1	<0.0001
Hamilton, ON	6.9	5.9	0.0717	19.9	5.7	<0.0001	x	x	–	5.4	3.7	0.0002
St. Catharines-Niagara, ON	8.3	8.1	0.7771	24.0	7.8	<0.0001	x	x	–	7.3	4.3	<0.0001
Kitchener-Cambridge-Waterloo, ON	6.5	6.1	0.5361	19.6	5.4	<0.0001	x	x	–	5.9	4.1	<0.0001
Brantford, ON	6.7	5.8	0.2010	22.0	5.8	<0.0001	x	x	–	6.4	3.7	<0.0001
Guelph, ON	7.9	6.9	0.2691	19.7	6.1	<0.0001	x	x	–	7.0	4.5	0.0007
London, ON	8.9	8.5	0.4901	20.2	7.6	<0.0001	14.0	22.8	0.0007	6.7	4.1	<0.0001
Windsor, ON	6.1	6.5	0.4837	21.7	6.6	<0.0001	16.1	28.7	0.0002	6.1	4.4	0.0028
Barrie, ON	8.5	7.4	0.3082	20.8	5.0	<0.0001	x	x	–	6.3	3.9	0.0028
Greater Sudbury, ON	9.8	9.2	0.3980	18.1	5.5	<0.0001	x	x	–	4.8	2.9	<0.0001
Thunder Bay, ON	9.0	9.9	0.2451	21.5	7.2	<0.0001	x	x	–	8.1	5.2	<0.0001
Winnipeg, MB	9.1	6.8	<0.0001	19.3	6.4	<0.0001	10.0	15.4	<0.0001	7.4	5.7	<0.0001
Regina, SK	9.9	7.6	<0.0001	14.5	4.7	<0.0001	x	x	–	6.5	5.9	0.1498
Saskatoon, SK	10.8	7.6	<0.0001	20.3	5.3	<0.0001	x	x	–	8.0	5.3	<0.0001
Calgary, AB	8.8	7.4	0.0015	18.3	4.9	<0.0001	8.3	17.8	<0.0001	6.3	4.3	<0.0001
Edmonton, AB	9.3	8.3	0.0263	18.5	4.4	<0.0001	7.6	17.2	<0.0001	7.0	3.5	<0.0001

Table 4. (*Continued*)

	Temporary employment			Part-time employment			Involuntary part-time			Multiple job holders		
	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.
Geography	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value
Kelowna, BC	10.2	10.7	0.6831	24.8	8.5	<0.0001	x	x	–	x	x	–
Abbortsford-Mission, BC	10.0	5.9	<0.0001	25.8	6.0	<0.0001	x	x	–	6.3	5.1	0.0285
Vancouver, BC	10.0	8.2	<0.0001	22.4	7.4	<0.0001	9.8	17.8	<0.0001	6.2	4.1	<0.0001
Victoria, BC	11.1	8.6	0.0002	24.2	9.3	<0.0001	11.4	16.4	0.0130	7.0	5.2	0.0002
Non-CMA	10.8	11.1	0.0282	24.2	5.8	<0.0001	8.1	14.7	<0.0001	6.6	4.6	<0.0001

Note: Two-tailed test are used to determine statistically significant differences (diff.) between women and men. X indicates that the sample is too small for disclosure.

Table 5. *Weighted percentages for Canada's population engaged in PFE, by gender, across urban–rural geographies, 2011–2016.*

	Temporary employment			Part-time employment			Involuntary part-time employment			Multiple job holders		
	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.	Women	Men	Diff.
Geography	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value	%	%	*p*-value
CMA-CA SUC	7.0	5.7	0.0168	19.9	4.5	<0.0001	7.8	13.5	0.0155	5.5	3.8	0.0002
CMA/CA UC	9.6	8.4	<0.0001	18.6	6.2	<0.0001	11.1	18.4	<0.0001	5.6	4.1	<0.0001
CMA/CA UF	9.3	7.0	<0.0001	19.9	4.9	<0.0001	8.3	16.0	<0.0001	5.4	3.6	<0.0001
CMA/CA Rural	8.9	9.2	0.2929	21.3	5.5	<0.0001	7.3	13.3	<0.0001	5.8	4.4	<0.0001
Non-CA Urban	10.5	9.7	0.0070	23.2	5.4	<0.0001	9.0	14.8	<0.0001	6.6	4.0	<0.0001
Non-CA Rural	12.0	13.6	<0.0001	25.2	6.0	<0.0001	x	x	–	6.8	5.4	<0.0001

Note: Two-tailed test are used to determine statistically significant differences (diff.) between women and men. X indicates that the sample is too small for disclosure. SUC, Secondary Urban Core; UC, Urban Code; UF, Urban Fringe.

Table 6. *Logistic regression estimates for PFEs -Canada's population by gender, 2011–2016.*

	Temporary employment			Part-time employment			Involuntary part-time employment			Multiple job holders		
	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income
Independent variables	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Sociodemographic												
Gender (ref: men)												
Women	1.02 (0.97–1.07)	2.01*** (1.85–2.19)	0.93*** (0.88–0.98)	2.62*** (2.51–2.74)	3.08*** (2.92–3.25)	2.47*** (2.31–2.65)	0.64*** (0.57–0.71)	0.72*** (0.63–0.81)	0.53*** (0.42–0.68)	0.95 (0.90–1.01)	2.02*** (1.76–2.31)	0.85*** (0.79–0.91)
Immigration status (ref: non-immigrants)												
Immigrants	1.10*** (1.05–1.14)	1.55*** (1.45–1.66)	1.17*** (1.12–1.21)	0.84*** (0.81–0.87)	1.24*** (1.19–1.29)	0.73*** (0.69–0.77)	1.66*** (1.52–1.81)	1.85*** (1.68–2.04)	1.48*** (1.26–1.74)	1.08*** (1.03–1.13)	1.16*** (1.06–1.28)	1.17*** (1.11–1.23)
Population age (ref: 55–64)												
25–34	1.20*** (1.16–1.25)	0.75*** (0.69–0.81)	1.51*** (1.45–1.58)	0.54*** (0.52–0.56)	0.66*** (0.63–0.69)	0.53*** (0.50–0.57)	3.48*** (3.09–3.92)	3.21*** (2.81–3.66)	4.34*** (3.34–5.64)	1.31*** (1.23–1.39)	1.18*** (1.05–1.33)	1.42*** (1.33–1.52)
35–44	0.92*** (0.88–0.97)	0.65*** (0.60–0.71)	1.06** (1.00–1.11)	0.57*** (0.55–0.60)	0.60*** (0.57–0.63)	0.61*** (0.58–0.65)	3.00*** (2.66–3.39)	2.79*** (2.43–3.19)	3.42*** (2.63–4.45)	1.27*** (1.20–1.35)	1.05 (0.93–1.20)	1.35*** (1.26–1.45)
45–54	0.85*** (0.81–0.88)	0.64*** (0.60–0.70)	0.93*** (0.89–0.98)	0.58*** (0.56–0.60)	0.59*** (0.57–0.62)	0.61*** (0.58–0.65)	2.83*** (2.52–3.18)	2.58*** (2.26–2.95)	3.38*** (2.63–4.34)	1.24*** (1.17–1.31)	1.09 (0.97–1.23)	1.28*** (1.20–1.36)
Type of economic family (ref: other families)												
Unattached individual	1.01 (0.96–1.08)	0.89* (0.80–1.00)	1.00 (0.94–1.07)	0.84*** (0.79–0.89)	0.83*** (0.77–0.89)	0.84*** (0.76–0.93)	1.05 (0.91–1.21)	0.98 (0.83–1.15)	1.22 (0.93–1.59)	1.19*** (1.10–1.29)	0.99 (0.85–1.16)	1.23*** (1.12–1.34)
Couple, no children or none under 25	0.95** (0.90–1.00)	0.86*** (0.78–0.95)	0.91*** (0.86–0.97)	0.97 (0.92–1.02)	0.89*** (0.84–0.95)	1.00 (0.92–1.10)	0.89* (0.78–1.02)	0.87* (0.75–1.01)	0.90 (0.7–1.17)	0.94* (0.86–1.01)	0.80*** (0.69–0.93)	0.94 (0.86–1.04)
Couple, youngest child under 25	0.81*** (0.77–0.85)	0.81*** (0.73–0.90)	0.74*** (0.70–0.78)	1.15*** (1.09–1.21)	0.95 (0.90–1.02)	1.25*** (1.15–1.37)	0.60*** (0.52–0.68)	0.59*** (0.51–0.69)	0.61*** (0.48–0.78)	0.92** (0.85–1.00)	0.75*** (0.65–0.86)	0.93* (0.85–1.01)
Single parent family, youngest child under 25	0.92** (0.86–0.99)	0.86** (0.76–0.99)	0.90** (0.83–0.98)	0.91*** (0.86–0.98)	0.87*** (0.81–0.95)	0.94 (0.84–1.05)	1.09 (0.92–1.28)	1.08 (0.90–1.3)	1.08 (0.79–1.48)	1.15*** (1.05–1.27)	0.94 (0.78–1.12)	1.19*** (1.07–1.33)
Education (ref: without high school graduation)												
High school graduate	0.79*** (0.75–0.84)	0.76*** (0.69–0.84)	0.73*** (0.69–0.77)	0.99 (0.94–1.04)	0.79*** (0.75–0.84)	1.28*** (1.15–1.42)	1.23*** (1.07–1.42)	1.17** (1.01–1.36)	1.39* (0.95–2.04)	1.34*** (1.23–1.45)	1.07 (0.92–1.25)	1.39*** (1.25–1.54)
Some postsecondary education	0.92** (0.86–0.99)	0.90 (0.78–1.03)	0.83*** (0.76–0.90)	1.11*** (1.04–1.19)	0.86*** (0.80–0.93)	1.37*** (1.20–1.56)	1.46*** (1.22–1.75)	1.30*** (1.07–1.58)	2.15*** (1.37–3.36)	1.60*** (1.44–1.79)	1.38*** (1.14–1.66)	1.60*** (1.40–1.82)
Postsecondary certificate or diploma	0.90*** (0.86–0.95)	0.74*** (0.68–0.82)	0.80*** (0.76–0.84)	0.99 (0.94–1.04)	0.68*** (0.64–0.72)	1.39*** (1.26–1.54)	1.65*** (1.44–1.89)	1.44*** (1.24–1.66)	2.24*** (1.58–3.18)	1.65*** (1.52–1.79)	1.19** (1.03–1.37)	1.70*** (1.54–1.87)
University degree	1.24*** (1.17–1.31)	0.76*** (0.69–0.85)	0.99 (0.93–1.05)	1.09*** (1.03–1.15)	0.56*** (0.53–0.60)	1.53*** (1.38–1.70)	1.93*** (1.67–2.24)	1.45*** (1.23–1.70)	2.52*** (1.76–3.61)	1.90*** (1.74–2.06)	1.18** (1.00–1.38)	1.80*** (1.63–2.00)
Socioeconomic												

Table 6. (*Continued*)

Independent variables	Temporary employment (1) OR (95% CI)	Temporary employment (2) low income OR (95% CI)	Temporary employment (3) mid/high income OR (95% CI)	Part-time employment (1) OR (95% CI)	Part-time employment (2) low income OR (95% CI)	Part-time employment (3) mid/high income OR (95% CI)	Involuntary part-time employment (1) OR (95% CI)	Involuntary part-time employment (2) low income OR (95% CI)	Involuntary part-time employment (3) mid/high income OR (95% CI)	Multiple job holders (1) OR (95% CI)	Multiple job holders (2) low income OR (95% CI)	Multiple job holders (3) mid/high income OR (95% CI)
Income (ref:hourly earnings (hrlyearn)> $30.00)												
0 <= hrlyearn < 12.00	4.24*** (4.01–4.49)			5.56*** (5.28–5.85)			2.97*** (2.55–3.47)			1.82*** (1.69–1.96)		
12.00 <= hrlyearn <= 19.99	2.50*** (2.40–2.61)			2.44*** (2.35–2.55)			2.43*** (2.12–2.79)			1.76*** (1.67–1.86)		
20.00 <= hrlyearn <= 29.99	1.59*** (1.53–1.66)			1.36*** (1.30–1.41)			1.72*** (1.49–1.97)			1.37*** (1.30–1.45)		
Occupation (ref: natural resources, agriculture and related production occupations)												
Management occupations	0.13*** (0.12–0.14)	0.06*** (0.05–0.08)	0.13*** (0.11–0.14)	0.20*** (0.18–0.23)	0.13*** (0.11–0.16)	0.22*** (0.19–0.26)	0.62** (0.40–0.95)	0.35*** (0.20–0.64)	1.25 (0.72–2.18)	0.79*** (0.69–0.90)	0.23*** (0.16–0.34)	0.82*** (0.72–0.94)
Business, finance and administration occupations	0.23*** (0.22–0.25)	0.25*** (0.22–0.29)	0.26*** (0.24–0.28)	0.69*** (0.64–0.75)	0.75*** (0.67–0.83)	0.64*** (0.58–0.71)	0.75*** (0.60–0.93)	1.03 (0.78–1.36)	0.68** (0.49–0.94)	0.98 (0.88–1.10)	0.78* (0.61–1.01)	1.07 (0.95–1.21)
Natural and applied sciences and related occupations	0.26*** (0.24–0.28)	0.08*** (0.06–0.11)	0.26*** (0.24–0.28)	0.31*** (0.28–0.35)	0.15*** (0.13–0.19)	0.38*** (0.33–0.44)	0.58*** (0.39–0.84)	0.49*** (0.30–0.79)	0.67 (0.38–1.17)	0.63*** (0.55–0.72)	0.12*** (0.07–0.19)	0.65*** (0.57–0.75)
Health occupations	0.31*** (0.29–0.33)	0.36*** (0.31–0.42)	0.30*** (0.28–0.33)	1.75*** (1.61–1.91)	0.92 (0.82–1.04)	1.96*** (1.77–2.17)	0.77** (0.62–0.96)	0.62*** (0.47–0.83)	0.91 (0.67–1.22)	1.83*** (1.63–2.05)	1.13 (0.86–1.49)	1.93*** (1.70–2.19)
Occupations in education, law and social, community and government services	0.54*** (0.51–0.57)	0.84*** (0.73–0.95)	0.49*** (0.46–0.52)	1.22*** (1.12–1.32)	1.25*** (1.12–1.40)	1.04 (0.94–1.15)	1.10 (0.89–1.35)	1.30* (1.00–1.70)	0.97 (0.72–1.31)	1.50*** (1.34–1.67)	1.23 (0.95–1.59)	1.52*** (1.35–1.72)
Occupations in art, culture, recreation and sport	0.58*** (0.52–0.65)	0.85 (0.69–1.05)	0.56*** (0.50–0.62)	1.65*** (1.47–1.86)	1.81*** (1.57–2.09)	1.28*** (1.10–1.49)	1.07 (0.80–1.41)	1.22 (0.87–1.73)	0.98 (0.63–1.51)	1.72*** (1.48–2.00)	2.35*** (1.72–3.20)	1.57*** (1.33–1.85)
Sales and service occupations	0.20*** (0.18–0.21)	0.70*** (0.62–0.79)	0.18*** (0.17–0.19)	1.16*** (1.07–1.26)	2.44*** (2.20–2.71)	0.57*** (0.51–0.63)	0.90 (0.73–1.10)	1.82*** (1.41–2.35)	0.30*** (0.22–0.42)	1.04 (0.94–1.16)	2.06*** (1.62–2.63)	0.91 (0.81–1.02)
Trades, transport and equipment operators and related occupations	0.48*** (0.46–0.51)	0.41*** (0.36–0.48)	0.53*** (0.50–0.56)	0.52*** (0.48–0.57)	0.74*** (0.65–0.83)	0.37*** (0.32–0.42)	1.20 (0.95–1.52)	1.85*** (1.39–2.46)	0.74 (0.51–1.09)	0.63*** (0.56–0.72)	0.57*** (0.42–0.77)	0.65*** (0.57–0.74)
Occupations in manufacturing and utilities	0.22*** (0.20–0.24)	0.33*** (0.27–0.40)	0.27*** (0.25–0.29)	0.19*** (0.17–0.22)	0.35*** (0.30–0.41)	0.14*** (0.11–0.17)	1.34* (0.95–1.88)	2.26*** (1.52–3.38)	0.71 (0.37–1.37)	0.57*** (0.50–0.66)	0.25*** (0.15–0.40)	0.70*** (0.61–0.81)

Table 6. (*Continued*)

Independent variables	Temporary employment (1) OR (95% CI)	Temporary employment (2) low income OR (95% CI)	Temporary employment (3) mid/high income OR (95% CI)	Part-time employment (1) OR (95% CI)	Part-time employment (2) low income OR (95% CI)	Part-time employment (3) mid/high income OR (95% CI)	Involuntary part-time employment (1) OR (95% CI)	Involuntary part-time employment (2) low income OR (95% CI)	Involuntary part-time employment (3) mid/high income OR (95% CI)	Multiple job holders (1) OR (95% CI)	Multiple job holders (2) low income OR (95% CI)	Multiple job holders (3) mid/high income OR (95% CI)
Union status (ref: union member)												
Not a union member	0.86*** (0.84–0.89)	2.41*** (2.25–2.59)	0.86*** (0.83–0.88)	1.00 (0.97–1.03)	2.10*** (2.01–2.19)	0.67*** (0.64–0.70)	0.97 (0.89–1.06)	1.60*** (1.44–1.78)	0.51*** (0.44–0.60)	1.03 (0.99–1.08)	2.31*** (2.07–2.59)	0.96* (0.92–1.01)
Gender interactions effects on spatial variables												
CMAs (ref: = Toronto); gender (ref:men)												
Gender*St-John's	1.52*** (1.34–1.71)	0.90 (0.70–1.16)	1.85*** (1.62–2.10)	0.56*** (0.49–0.64)	0.68*** (0.59–0.79)	0.55*** (0.46–0.66)	1.16 (0.87–1.55)	0.92 (0.65–1.30)	1.89** (1.15–3.12)	0.72*** (0.61–0.85)	0.81 (0.56–1.17)	0.72*** (0.61–0.86)
Gender*Halifax	1.14** (1.02–1.26)	1.26*** (1.06–1.50)	1.22*** (1.07–1.37)	0.78*** (0.72–0.85)	1.00 (0.91–1.10)	0.70*** (0.62–0.80)	0.86 (0.70–1.07)	0.90 (0.70–1.16)	0.93 (0.59–1.48)	0.99 (0.87–1.14)	1.00 (0.76–1.30)	1.05 (0.91–1.22)
Gender*Moncton	0.93 (0.79–1.09)	1.17 (0.91–1.50)	0.97 (0.80–1.17)	0.55*** (0.46–0.65)	0.78*** (0.65–0.93)	0.46*** (0.35–0.60)	0.99 (0.69–1.43)	1.26 (0.86–1.83)	0.31 (<0.001–380.74)	0.86 (0.70–1.06)	1.13 (0.77–1.65)	0.82 (0.64–1.06)
Gender*Saint John	0.89 (0.75–1.06)	0.95 (0.74–1.23)	1.04 (0.85–1.27)	0.62*** (0.54–0.71)	0.86* (0.74–1.01)	0.58*** (0.46–0.72)	1.00 (0.69–1.45)	1.21 (0.82–1.8)	0.57 (0.07–4.70)	0.92 (0.76–1.11)	1.04 (0.68–1.58)	0.94 (0.73–1.20)
Gender*Saguenay	1.35*** (1.16–1.56)	1.52*** (1.16–1.98)	1.50*** (1.27–1.77)	1.07 (0.94–1.21)	1.39*** (1.22–1.58)	1.01 (0.82–1.23)	0.58*** (0.41–0.83)	0.58*** (0.39–0.86)	0.82 (0.38–1.76)	0.58*** (0.45–0.75)	0.90 (0.56–1.43)	0.54*** (0.41–0.72)
Gender*Quebec	1.38*** (1.24–1.54)	0.95 (0.74–1.22)	1.66*** (1.46–1.88)	0.8*** (0.74–0.88)	0.75*** (0.65–0.85)	0.99 (0.87–1.13)	0.56*** (0.37–0.86)	0.54** (0.32–0.91)	0.72 (0.37–1.40)	0.63*** (0.53–0.75)	0.97 (0.70–1.34)	0.58*** (0.46–0.72)
Gender*Sherbrooke	1.22*** (1.08–1.38)	1.28* (0.98–1.67)	1.38*** (1.19–1.59)	1.16** (1.02–1.31)	1.24*** (1.05–1.46)	1.27*** (1.09–1.48)	0.66* (0.41–1.04)	0.84 (0.49–1.43)	0.37** (0.16–0.85)	0.79** (0.63–0.99)	1.42* (0.94–2.14)	0.68*** (0.54–0.85)
Gender*Trois-Rivieres	1.07 (0.92–1.24)	1.01 (0.76–1.34)	1.24** (1.05–1.47)	1.13** (1.01–1.26)	1.28*** (1.12–1.47)	1.16** (1.01–1.34)	0.73* (0.51–1.03)	0.71* (0.48–1.05)	0.79 (0.40–1.55)	0.59*** (0.46–0.75)	0.77 (0.52–1.13)	0.57*** (0.42–0.78)
Gender*Montréal	1.10** (1.02–1.20)	1.01 (0.88–1.17)	1.22*** (1.11–1.34)	0.92** (0.86–0.98)	0.88*** (0.81–0.95)	1.09* (0.99–1.20)	0.58*** (0.48–0.7)	0.63*** (0.51–0.77)	0.53*** (0.35–0.82)	0.65*** (0.58–0.74)	0.84 (0.67–1.06)	0.63*** (0.55–0.72)
Gender*Gatineau	1.21*** (1.07–1.35)	1.01 (0.81–1.27)	1.25*** (1.10–1.43)	0.68*** (0.60–0.76)	0.68*** (0.59–0.79)	0.69*** (0.59–0.81)	0.79 (0.54–1.14)	0.75 (0.48–1.17)	0.98 (0.53–1.83)	0.73*** (0.60–0.88)	0.79 (0.55–1.13)	0.71*** (0.57–0.88)
Gender*Ottawa	1.24*** (1.11–1.38)	1.23** (1.01–1.51)	1.11* (0.98–1.26)	0.96 (0.87–1.06)	0.98 (0.87–1.10)	0.83*** (0.72–0.96)	0.98 (0.77–1.26)	0.96 (0.73–1.25)	1.06 (0.62–1.82)	1.02 (0.88–1.18)	1.04 (0.74–1.46)	0.97 (0.83–1.13)
Gender*Kingston	0.97 (0.85–1.10)	0.79* (0.62–1.00)	1.07 (0.92–1.25)	1.02 (0.91–1.13)	1.18** (1.03–1.34)	0.85* (0.72–1.01)	1.21 (0.96–1.54)	1.26 (0.94–1.69)	1.20 (0.73–1.98)	1.38*** (1.17–1.62)	1.51*** (1.13–2.03)	1.33*** (1.11–1.59)
Gender*Peterborough	0.96 (0.73–1.28)	0.80 (0.47–1.36)	1.09 (0.80–1.50)	1.13 (0.94–1.35)	1.19 (0.94–1.51)	1.11 (0.86–1.45)	1.62** (1.11–2.36)	1.43 (0.93–2.21)	2.28** (1.17–4.41)	0.96 (0.74–1.26)	0.81 (0.43–1.55)	1.04 (0.77–1.41)
Gender*Oshawa	0.69*** (0.59–0.81)	0.92 (0.72–1.18)	0.56*** (0.46–0.69)	1.07 (0.97–1.20)	1.12* (0.99–1.26)	0.89 (0.76–1.05)	1.49*** (1.18–1.88)	1.43*** (1.09–1.88)	1.64** (1.01–2.65)	1.02 (0.87–1.19)	1.25 (0.95–1.65)	0.91 (0.72–1.14)

Table 6. (*Continued*)

	Temporary employment			Part-time employment			Involuntary part-time employment			Multiple job holders		
	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income
Independent variables	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Gender*Hamilton	0.78*** (0.67–0.90)	0.84 (0.65–1.07)	0.74*** (0.63–0.87)	1.05 (0.96–1.15)	1.04 (0.93–1.17)	0.99 (0.86–1.13)	0.95 (0.74–1.23)	0.91 (0.67–1.23)	1.15 (0.65–2.03)	0.94 (0.79–1.13)	0.94 (0.68–1.29)	0.93 (0.77–1.13)
Gender*St. Catharines-Niagara	0.92 (0.80–1.07)	1.12 (0.91–1.39)	0.89 (0.74–1.08)	1.15*** (1.03–1.27)	1.35*** (1.21–1.51)	0.93 (0.79–1.1)	1.30** (1.04–1.61)	1.33** (1.03–1.72)	1.20 (0.75–1.93)	1.24*** (1.07–1.45)	1.49*** (1.11–1.99)	1.18 (0.97–1.43)
Gender*Kitchener-Cambridge-Waterloo	0.71*** (0.61–0.82)	0.57*** (0.44–0.73)	0.77*** (0.65–0.93)	1.11** (1.00–1.22)	1.04 (0.91–1.18)	1.12* (0.99–1.28)	0.85 (0.66–1.10)	0.83 (0.63–1.11)	0.95 (0.53–1.72)	1.11 (0.95–1.29)	1.22 (0.89–1.67)	1.06 (0.90–1.24)
Gender*Brantford	0.75*** (0.63–0.89)	0.79 (0.58–1.07)	0.80* (0.62–1.03)	1.15* (1.00–1.32)	1.41*** (1.21–1.63)	0.88 (0.70–1.11)	0.79 (0.55–1.15)	0.69 (0.41–1.15)	1.33 (0.68–2.60)	1.20** (1.00–1.45)	1.14 (0.65–2)	1.26** (1.01–1.57)
Gender*Guelph	0.83* (0.68–1.01)	0.89 (0.66–1.22)	0.81 (0.63–1.06)	1.15* (1.00–1.33)	1.06 (0.91–1.22)	1.21* (0.99–1.47)	0.79 (0.47–1.32)	0.66 (0.38–1.16)	1.29 (0.62–2.69)	1.29** (1.02–1.63)	1.40* (0.96–2.04)	1.25* (0.98–1.60)
Gender*London	1.01 (0.90–1.13)	0.95 (0.79–1.15)	1.07 (0.93–1.23)	1.05 (0.96–1.14)	1.22*** (1.1–1.36)	0.86** (0.74–1.00)	1.23* (0.99–1.52)	1.31** (1.03–1.66)	1.08 (0.69–1.71)	1.19** (1.02–1.38)	1.57*** (1.25–1.97)	1.07 (0.89–1.30)
Gender*Windsor	0.64*** (0.55–0.76)	0.77** (0.60–0.98)	0.65*** (0.53–0.79)	1.15*** (1.04–1.26)	1.45*** (1.28–1.64)	0.88 (0.74–1.05)	1.33** (1.03–1.72)	1.23 (0.91–1.66)	1.87*** (1.17–2.99)	1.07 (0.9–1.28)	2.03*** (1.54–2.67)	0.80* (0.64–1.00)
Gender*Barrie	0.92 (0.77–1.10)	1.11 (0.83–1.48)	0.86 (0.67–1.12)	1.05 (0.84–1.31)	1.17 (0.9–1.53)	0.95 (0.77–1.16)	1.48** (1.01–2.19)	1.69** (1.04–2.74)	0.95 (0.21–4.39)	1.10 (0.88–1.37)	1.26 (0.78–2.01)	1.04 (0.80–1.36)
Gender*Greater Sudbury	1.12 (0.97–1.29)	1.22* (1.00–1.50)	1.11 (0.93–1.31)	0.89** (0.80–0.98)	1.10 (0.97–1.24)	0.71*** (0.58–0.87)	1.23 (0.93–1.63)	1.24 (0.92–1.67)	1.35 (0.73–2.51)	0.88 (0.74–1.05)	1.02 (0.73–1.43)	0.85 (0.68–1.07)
Gender*Thunder Bay	1.02 (0.88–1.17)	1.21 (0.96–1.52)	0.98 (0.82–1.16)	1.16*** (1.05–1.29)	1.29*** (1.13–1.48)	1.01 (0.86–1.19)	0.69** (0.49–0.99)	0.61** (0.39–0.95)	1.07 (0.60–1.93)	1.52*** (1.31–1.77)	1.87*** (1.43–2.45)	1.42*** (1.19–1.69)
Gender*Winnipeg	0.93* (0.86–1.01)	1.12* (0.98–1.27)	0.97 (0.88–1.05)	0.99 (0.94–1.05)	1.13*** (1.05–1.22)	0.98 (0.9–1.06)	0.78*** (0.66–0.92)	0.90 (0.75–1.08)	0.63*** (0.45–0.89)	1.31*** (1.20–1.43)	1.47*** (1.25–1.73)	1.32*** (1.19–1.46)
Gender*Regina	1.22*** (1.09–1.38)	0.96 (0.78–1.18)	1.27*** (1.12–1.45)	0.81*** (0.73–0.90)	0.78*** (0.67–0.92)	0.81*** (0.7–0.94)	0.64** (0.44–0.93)	0.70 (0.45–1.09)	0.52* (0.25–1.11)	1.28*** (1.12–1.46)	1.05 (0.80–1.37)	1.31*** (1.13–1.51)
Gender*Saskatoon	1.21*** (1.08–1.34)	1.26** (1.05–1.52)	1.18*** (1.05–1.33)	1.10* (0.99–1.21)	1.08 (0.96–1.21)	1.05 (0.91–1.22)	0.75** (0.57–0.98)	0.81 (0.60–1.1)	0.54* (0.29–1.03)	1.45*** (1.27–1.66)	1.45** (1.09–1.92)	1.43*** (1.23–1.66)
Gender*Calgary	1.04 (0.93–1.15)	0.68*** (0.55–0.85)	1.03 (0.92–1.17)	1.14*** (1.05–1.25)	0.73*** (0.65–0.81)	1.45*** (1.3–1.62)	0.67*** (0.51–0.87)	0.55*** (0.41–0.75)	0.87 (0.53–1.42)	1.23*** (1.09–1.40)	0.71** (0.54–0.93)	1.32*** (1.15–1.51)
Gender*Edmonton	1.08 (0.97–1.19)	0.76*** (0.62–0.93)	1.10* (0.99–1.24)	1.11** (1.02–1.21)	0.75*** (0.67–0.84)	1.37*** (1.23–1.52)	0.66*** (0.5–0.87)	0.50*** (0.36–0.7)	1.00 (0.64–1.56)	1.38*** (1.22–1.55)	0.99 (0.77–1.29)	1.42*** (1.25–1.62)
Gender*Kelowna	1.21 (0.94–1.57)	0.93 (0.57–1.52)	1.37** (1.01–1.86)	1.44*** (1.22–1.71)	1.29* (0.98–1.69)	1.45*** (1.11–1.88)	1.01 (0.64–1.58)	0.86 (0.44–1.71)	1.49 (0.05–48.49)	0.98 (0.58–1.65)	0.90 (0.33–2.43)	1.03 (0.6–1.77)
Gender*Abbortsford-Mission	0.96 (0.83–1.10)	1.15 (0.94–1.40)	0.96 (0.81–1.15)	1.27*** (1.14–1.42)	1.11 (0.97–1.26)	1.56*** (1.35–1.79)	0.52*** (0.35–0.77)	0.54*** (0.34–0.85)	0.46* (0.21–1.05)	1.12 (0.94–1.33)	1.23 (0.89–1.70)	1.11 (0.91–1.35)

Table 6. (*Continued*)

Independent variables	Temporary employment (1) OR (95% CI)	Temporary employment (2) low income OR (95% CI)	Temporary employment (3) mid/high income OR (95% CI)	Part-time employment (1) OR (95% CI)	Part-time employment (2) low income OR (95% CI)	Part-time employment (3) mid/high income OR (95% CI)	Involuntary part-time employment (1) OR (95% CI)	Involuntary part-time employment (2) low income OR (95% CI)	Involuntary part-time employment (3) mid/high income OR (95% CI)	Multiple job holders (1) OR (95% CI)	Multiple job holders (2) low income OR (95% CI)	Multiple job holders (3) mid/high income OR (95% CI)
Gender*Vancouver	1.07 (0.98–1.16)	1.02 (0.88–1.17)	1.06 (0.95–1.17)	1.31*** (1.23–1.4)	1.00 (0.92–1.10)	1.58*** (1.45–1.73)	0.75*** (0.63–0.90)	0.67*** (0.55–0.82)	0.95 (0.68–1.32)	1.12** (1.01–1.24)	1.03 (0.84–1.27)	1.13** (1.01–1.27)
Gender*Victoria	1.32*** (1.17–1.50)	1.07 (0.86–1.34)	1.39*** (1.20–1.60)	1.45*** (1.33–1.57)	1.24*** (1.10–1.40)	1.44*** (1.28–1.62)	1.16 (0.94–1.44)	0.99 (0.77–1.28)	1.43* (0.96–2.13)	1.24*** (1.07–1.43)	1.21 (0.90–1.61)	1.24*** (1.05–1.46)
Urban/rural (ref: CMA/CA Urban Code); gender (ref:men)												
Gender*CMA-CA Secondary Urban Core	1.04 (0.92–1.18)	1.11 (0.93–1.33)	1.05 (0.88–1.24)	1.08* (0.99–1.19)	1.15*** (1.04–1.28)	1.03 (0.89–1.18)	0.80* (0.63–1.02)	0.80 (0.62–1.05)	0.83 (0.51–1.35)	0.98 (0.86–1.13)	1.18 (0.90–1.55)	0.94 (0.79–1.11)
Gender*CMA/CA Urban Fringe	1.01 (0.94–1.08)	1.07 (0.94–1.20)	1.03 (0.95–1.12)	1.10*** (1.04–1.16)	1.14*** (1.07–1.21)	1.09** (1.01–1.18)	0.87* (0.75–1.01)	0.85* (0.72–1.02)	0.96 (0.71–1.29)	1.06 (0.97–1.15)	1.21** (1.03–1.44)	1.03 (0.93–1.13)
Gender*CMA/CA Rural	1.15*** (1.07–1.25)	1.31*** (1.17–1.47)	1.20*** (1.10–1.32)	1.18*** (1.12–1.26)	1.37*** (1.28–1.47)	1.11** (1.01–1.21)	0.82*** (0.70–0.95)	0.86* (0.73–1.01)	0.86 (0.63–1.18)	1.20*** (1.09–1.31)	1.56*** (1.33–1.83)	1.12** (1.01–1.25)
Gender*Non-CA Urban	1.37*** (1.28–1.46)	1.58*** (1.43–1.75)	1.43*** (1.33–1.54)	1.24*** (1.18–1.30)	1.44*** (1.35–1.52)	1.19*** (1.11–1.28)	0.79*** (0.69–0.91)	0.85** (0.74–0.99)	0.74** (0.57–0.96)	1.23*** (1.14–1.32)	1.78*** (1.55–2.05)	1.11** (1.01–1.21)
Gender*Non-CA Rural	0.77*** (0.68–0.88)	0.83 (0.66–1.05)	0.74*** (0.62–0.88)	1.10* (0.99–1.21)	1.04 (0.91–1.19)	1.07 (0.93–1.22)	0.84 (0.61–1.15)	0.70* (0.48–1.02)	1.26 (0.76–2.10)	1.06 (0.89–1.25)	0.92 (0.68–1.24)	1.09 (0.90–1.31)
Temporal												
Survey year (ref: 2016)												
2011	0.99 (0.94–1.04)	1.30*** (1.19–1.43)	1.02 (0.97–1.08)	0.93*** (0.89–0.97)	1.19*** (1.13–1.25)	0.88*** (0.83–0.94)	1.16*** (1.04–1.3)	1.34*** (1.18–1.53)	0.87 (0.70–1.09)	0.96 (0.90–1.02)	1.20*** (1.05–1.37)	0.95 (0.88–1.02)
2012	0.99 (0.95–1.04)	1.21*** (1.10–1.33)	1.03 (0.97–1.09)	0.92*** (0.88–0.96)	1.16*** (1.10–1.22)	0.84*** (0.79–0.90)	1.03 (0.91–1.16)	1.21*** (1.06–1.39)	0.72*** (0.57–0.92)	0.95* (0.89–1.01)	1.17** (1.02–1.33)	0.94* (0.87–1.00)
2013	1.01 (0.96–1.06)	1.10* (1.00–1.21)	1.06** (1.00–1.11)	0.94*** (0.90–0.98)	1.09*** (1.03–1.15)	0.91*** (0.85–0.97)	1.02 (0.9–1.15)	1.11 (0.97–1.28)	0.88 (0.70–1.10)	0.94** (0.88–1.00)	1.00 (0.87–1.14)	0.96 (0.89–1.03)
2014	0.98 (0.93–1.02)	1.07 (0.97–1.18)	1.00 (0.95–1.05)	0.96* (0.92–1.00)	1.07** (1.01–1.13)	0.93** (0.88–0.99)	1.06 (0.94–1.19)	1.03 (0.89–1.19)	1.17 (0.95–1.45)	1.00 (0.94–1.07)	1.05 (0.91–1.2)	1.01 (0.94–1.09)
2015	1.00 (0.95–1.05)	0.97 (0.88–1.07)	1.02 (0.97–1.08)	0.94*** (0.90–0.99)	1.03 (0.98–1.09)	0.88*** (0.83–0.94)	0.97 (0.86–1.1)	1.03 (0.89–1.19)	0.85 (0.68–1.07)	0.97 (0.91–1.03)	0.99 (0.86–1.13)	0.97 (0.91–1.04)
Survey month (ref: July)												
January	0.85*** (0.82–0.87)	1.07** (1.01–1.13)	0.80*** (0.78–0.82)	1.15*** (1.12–1.18)	1.16*** (1.12–1.19)	1.12*** (1.08–1.16)	1.10*** (1.03–1.18)	1.08** (1.00–1.17)	1.13* (0.99–1.30)	1.08*** (1.04–1.12)	1.21*** (1.12–1.30)	1.05** (1.01–1.10)
Summary statistics												
N (unweighted)	498371	498371	498371	498371	498371	498371	57468	57468	57468	498371	498371	498371
Likelihood ratio	247.34	117.48	168.14	702.25	500.3	291.58	52.32	45.42	12.65	73.67	60.34	52.49
Likelihood ratio/Pr > *F*	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Table 6. (*Continued*)

	Temporary employment			Part-time employment			Involuntary part-time employment			Multiple job holders		
	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income	(1)	(2) low income	(3) mid/ high income
Independent variables	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Percent concordant	67.1	72.9	65.8	78.1	79.1	76.2	70.2	71.1	75.1	62.5	74.1	60.2

Abbreviations: CI, confidence interval; OR, odds ratio.
****p < 0.01; **p < 0.05; *p < 0.1.*

ESTIMATION RESULTS

Spatial effects – The spatial effects in the logit models (Table 6) confirm the robustness of gender differences in PFEs across space when controlling for sociodemographic, socioeconomic, and temporal effects. For instance, in comparison to men in Toronto, women were more likely to employed on a temporary basis in the Atlantic Canada's CMA of St John's -NL (OR = 1.52, $p < 0.0001$) and across Quebec's CMAs and least likely in Ontario's CMAs. With respect to involuntary-part-time employment, women (relative to men) also had a higher likelihood of employment in this type of work in the Atlantic Canada's CMA of St John's-NL and across Ontario's CMAs and least likely within the prairie and western Canadas CMAs. Women (relative to men) were further found to have a higher likelihood of being employed in part-time and multiple jobs across the western and prairie CMAs compared to the central and Atlantic CMAs. Across the urban–rural spectrum, we find that rural geographies were characterized by a higher likelihood of women (relative to men) employed in temporary, part-time, and multiple jobs.

Sociodemographic effects – Women had a significantly higher likelihood of employment in part-time (OR = 2.62, $p < 0.0001$) work relative to men. Significant odds ratio estimates were also reported for women (relative to men) employed in low income temporary (OR = 2.01, $p < 0.0001$), part-time (OR = 3.08, $p < 0.0001$), and multiple jobs (OR = 2.02, $p < 0.0001$). Moving to immigration effects, immigrants were significantly more likely to be employed in PFEs (except for part-time employment) compared with their nonimmigrant counterparts. These findings also held in the low- and mid/high-income adjusted models.

Age effects show a slight negative linear relationship between increasing age and employment in temporary employment, involuntary part-time employment, and multiple jobs. Similar findings were found in the low-income adjusted models. With respect to family-related investments, couples with youngest child under 25 were significantly more likely to be employed on a part-time basis than other families (OR = 1.15, $p < 0.0001$). More so, unattached individuals and single parent families with the youngest child under 25 were significantly more likely to be employed in multiple jobs (OR = 1.19, $p < 0.0001$ and OR = 1.15, $p = 0.0033$, respectively) than other families. Concerning education, the results illustrate a slight positive linear relationship between higher levels of education and temporary employment, involuntary part-time employment, and multiple jobs across the after controlling for income/earnings. However, further analysis of PFEs by income levels showed that tertiary educated respondents (university graduates) were least likely to be employed in low-income PFEs and more likely employed in mid/high-income PFEs.

Socioeconomic effects – Estimates reveal that as income increases, the likelihood of being employed in all forms of precarious work significantly decreases. Regarding occupation, the results show occupations in education, law and social, community and government services, occupations in art, culture, recreation and sport, and sales and service occupations were associated with a higher likelihood of employment in part-time and multiple jobs compared with natural resources, agriculture, and related production occupations. Higher odds ratios were reported for the aforementioned occupations in the part-time and multiple jobs low-income models. Our findings on involuntary part-time work, on the other hand, reveal the spread of precarious work beyond the service sector as occupations in manufacturing and utilities were significantly more likely to have workers employed on an involuntary part-time basis (OR = 1.34, $p = 0.0971$).

DISCUSSION AND CONCLUSION

In this study, we examined the spatial dimensions of PFE across gender lines. We observed distinct spatial patterns by type of PFE and gender at smaller, subnational scales. For example, temporary work was generally more common for men in Atlantic Canada's region. Broadly this might be attributed to the local industry structure in the Atlantic region and rural and small-town areas that are characterized by high concentrations of seasonal industries specific to the primary and construction industries (Rothwell 2002; De Raaf *et al.* 2003). These highly seasonal industries tend to employ more men than women, thus explaining the gender patterns observed (Marshall 1999; Statistics Canada 2007). This is corroborated by recent data from Statistics Canada (2021c) that has shown in 2016 only 22 per cent of core aged women worked in primary industries compared with 78 per cent for men. However, we also reveal a greater degree of precariousness within women in temporary employment across Atlantic Canada (where data are available), further reflecting the feminization of temporary employment norms (Young 2010).

Our findings further demonstrate that part-time employment and employment in multiple jobs were more common for women across all geographies and specifically across central and western Canada geographies. CMAs within central and western Canada's geographies tend to be concentrated by service industries that employ more women relative to men (Premji *et al.* 2014; Moyser 2017; Patterson 2018; Statistics Canada 2021c). Relatedly, Patterson (2018) finds that in the central and western Canadian geographies "caring for own children" tends to be the principal reason that core age workers cited for working part-time relative to other geographies. In addition to the effects of industrial structures, we can see how social reproduction activities including family-related investments are related to higher probabilities in part-time work (Hanson & Pratt 1991; Young 2010). This is empirically demonstrated in this study as couples with the youngest child under 25 were significantly more likely to be employed on a part-time basis than other families. Employment in multiple jobs had comparable gender and spatial patterns to part-time employment as Moyser (2017) finds that most core aged women who are employed in multiple jobs tend to be working part-time as their main job. Although, the share of part-time and multiple jobs was high in central and Atlantic Canada (relative to other regions), the degree of precariousness for both genders was higher in the Atlantic region. This may be attributed to the local economic conditions in Atlantic Canada where lower wages and higher income inequality are reported relative to other regions (MacDonald 2009).

Moving on to involuntary part-time work, we observe that this type of work was more common for men (to a greater degree than women) in Atlantic Canada and became gradually less prevalent moving westward. These observed spatial patterns might be attributed to the local economic conditions in Atlantic Canada that report high unemployment rates, which rise and fall together with involuntary part-time rates (Noreau 1994; Perusse 1997). Patterson (2018) further notes that in Atlantic Canada, part-timers, mostly men, highly cited working part-time due to economic reasons including economic slack.

Within the CMA scale, we observed marked gender disparities across all PFEs. We hypothesize that two causal/contextual factors may be at work in shaping these patterns. They include the structure and dynamics of labor supply and demand that are regulated in distinct geographic ways (Peck 1996); the outcomes of social and institutional processes as well as employer practices constituted within and across space (Hanson & Pratt 1991, 1995; Sackmann & Haussermann 1994; Hanson *et al.* 1997; Gilbert 1998; Peck & Theodore 2001; Premji *et al.* 2014). While our primary objective in this study was to map how gendered PFEs are spatially patterned, more qualitative studies are needed to further interrogate the disadvantages geographies exposed in this study and understand the why inquest i.e., what causal/contextual factors are at work in shaping these gendered patterns at the CMA scale.

Across the urban–rural spectrum, we find that rural geographies were characterized by high shares of women employed in part-time and multiple jobs. These findings are supported by several studies situated in Canada, all showing that rural women have a greater propensity for employment in precarious work (Perusse 1997; Rothwell 2002; MacDonald 2009). MacDonald (2009) for instance reveals that the women are kept in precarious work within rural geographies because of spatial labor immobility factors related to childcare, transportation, and gendered immigration policy. Other studies have shown that women in rural geographies are less active in the labor market in comparison with "rural men and urban women" (Curto & Rothwell 2003). Moreover, rural women have lower employment rates and are less likely to work full-time (Curto & Rothwell 2003).

Furthermore, we showed that precarious work is reinforced by a suite of sociodemographic and socioeconomic characteristics. Our findings on education and occupation stood out as they run counter to what we expected and what is documented in the literature. On education, we find a slight positive linear relationship between higher levels of education and PFEs across the gendered models (after controlling for income). These findings are, however, not conclusive as they were based on cross-sectional data that may have been susceptible to business cycle effects. Further analysis on educational differences with respect to indicators of precarity (i.e., income levels) unveiled that tertiary educated respondents were least likely to be employed in low-income PFEs and more likely employed in mid-/high-income PFEs. Although PFEs increase with education level, tertiary educated respondents compensate for this penalty through higher wages relative to lower educated respondents. The disproportionate representation of tertiary educated respondents in PFEs points to the growing mismatch between university graduates' skills and employment market needs. In part, labor insecurity amongst better-educated individuals may reflect the shift of the Canadian economy from a goods-producing economy to a service-based economy, with many precarious jobs in the service sectors (Vosko *et al.* 2003; Noack & Vosko 2011). Relatedly we show that specific PFEs (namely involuntary part-time work) have spread beyond the tertiary service sector. The spread of PFEs into the secondary sector further reflects the structural changes in the Canadian labor market.

In conclusion, this study has attempted to fill the void in the Canadian literature on how gendered precariousness manifests itself across and within space. We have shown that space shapes gendered precariousness, further supporting MacDonald's (2009) theoretical assertions that gendered precariousness are created by the spatial context in which such work occurs and not only by specific job characteristics. We adopted a multiscalar approach to explain how spatial relations influence gender inequalities in precarious employment outcomes. As such we were able to understand how gendered precarious employment outcomes within smaller scales interact to explain the behaviors at larger scales. This is the underlying basis of the spatiality of complexity science (O'Sullivan *et al.* 2006). The multiscalar approach used, however, did present some limitations. For example, we were confronted by the unavailability of data in small scale geographies for specific PFEs, namely involuntary part-time employment. This restricted any form of comparison with other PFEs. Another limitation of this study is the reliance on cross-sectional data within a small window of time that may fail to capture the evolution of gender patterns.

Beyond these limitations, this study provides avenues for future research on the causal/contextual factors at work in shaping these gendered spatial patterns i.e., the why inquiry to the spatial patterning of gendered precariousness. This could involve the various ways in which social and institutional processes, as well as employer practices, constituted within and across space shape gendered precariousness. We expect that more rigorous qualitative inquiry can fill this void as Census data limit the interrogation of these factors. More so, in this study, we have highlighted statistical differences in rates, but understanding these rates (i.e., differences by gender) is important for addressing policy directions and provide avenues for further research.

In terms of significance for policy and practice, this study has broad implications for Canadian safety net policies such as Employment Insurance (E.I.). In Canada, entitlement to E.I. is regionally differentiated and based on the unemployment rate of a given region. In general, regions with higher unemployment rates tend to have lower hours required for E.I. eligibility. To put the problem into context, women in this study were overrepresented across all geographies in part-time work that often does not qualify for E.I because of low hours worked. The impact of a regionally differentiated entitlement to E.I. in addition to its hours-based system may be disadvantageous to women in part-time work within geographies where unemployment rates are relatively low. Women may be reliant on E.I. for financial support, especially as they are overrepresented in job losses due to the COVID-19 pandemic. COVID-19 recovery and policy responses must therefore rethink benefit coverage for women in part-time work (not eligible for E.I), given the realities of the spatial dimension of gendered precariousness presented in this study.

Note

[1] Including PFEs in low income and mid/high income (household earnings equivalent to 75% or more than the median equivalized household income).

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