Journal of Rural and Community Development

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Citation:

Rippey, P. L. F., Haan, M., & Hewitt, C. (2024). Gendered power differences at home, at work, and at large: Sex differences in patterns of commuting. *The Journal of Rural and Community Development*, *19*(4), 208–237.

Publisher:

Rural Development Institute, Brandon University.

Editor: Dr. Doug Ramsey

Open Access Policy:

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Gendered Power Differences at Home, at Work, And at Large: Sex Differences In Patterns of Commuting

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Abstract

To identify the individual, spousal, and household determinants of commute times for married/common-law workers aged 25-54. Despite clear evidence of gendered patterns at home and in the paid labour market, only some have focused directly on the space connecting these two spheres: the commute. This oversight is critical because commuting times impact the overall time available to spend on paid labour or unpaid housework and may mark an important missing piece in the larger gender inequality puzzle.

We use the 2016 Census of Canada and include married and common-law couples, where both spouses are employed and aged 25-54. We use seemingly unrelated regression models to account for the non-independence of men and women living in the same household. Although magnitudes differ, many characteristics similarly determine the commute times of men and women in our sample. Household characteristics differ markedly between men and women; men increase commute times due to housing value, rental costs, and the presence of children. For women, the opposite is true.

We find that women often have to travel more to fulfill the promise of their human capital and that couples continue to make geographic decisions that disproportionately benefit men's interests.

Keywords: household bargaining, Canada, gender, quantitative analysis

Différences de pouvoir selon le sexe à la maison, au travail et en général : différences entre les sexes dans les modèles de déplacements domicile-travail

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Résumé

Identifier les déterminants individuels, conjoints et familiaux des temps de trajet pour les travailleurs mariés ou en union libre âgés de 25 à 54 ans. Malgré l'existence évidente de modèles sexistes au sein du foyer et sur le marché du travail rémunéré, seuls quelques-uns se sont directement concentrés sur l'espace reliant ces deux sphères : les déplacements domicile-travail. Ce contrôle est essentiel car les temps de trajet ont un impact sur le temps global disponible pour le travail rémunéré ou les tâches ménagères non rémunérées et peuvent constituer une pièce manquante importante dans le puzzle plus vaste des inégalités entre les sexes.

Nous utilisons le Recensement du Canada de 2016 et incluons les couples mariés et en union libre, dont les deux conjoints travaillent et sont âgés de 25 à 54 ans. Nous utilisons des modèles de régression apparemment sans rapport pour tenir compte de la non-indépendance des hommes et des femmes vivant dans le même ménage. Bien que les ampleurs diffèrent, de nombreuses caractéristiques déterminent de manière similaire les temps de déplacement des hommes et des femmes de notre échantillon. Les caractéristiques des ménages diffèrent sensiblement entre les hommes et les femmes ; les hommes augmentent les temps de trajet en raison de la valeur du logement, des coûts de location et de la présence d'enfants. Pour les femmes, c'est l'inverse.

Nous constatons que les femmes doivent souvent voyager davantage pour tenir la promesse de leur capital humain et que les couples continuent de prendre des décisions géographiques qui profitent de manière disproportionnée aux intérêts des hommes.

Mots-clés : négociation au sein du ménage, Canada, genre, analyse quantitative

1.0 Introduction

Understanding gender inequality in families and the labour market is a central concern among sociologists and labour market economists. This work has generally shown that there are persistent—though somewhat shrinking—gender gaps in wages in the United States (Misra & Murray-Close, 2015) and Canada (Baker & Drolet, 2010; Schirle, 2015). These gaps extend to housework (Bianchi et al., 2012; Leopold et al., 2018), childcare (Budig & England, 2001; Kleven et al., 2019), leisure time (Folbre, 2011; Jacobs & Gerson, 2004; Sayer, 2018) and even the mundane activity of household-serving travel, otherwise known as 'schlepping' (Taylor et al., 2015). Despite clear evidence of gendered patterns at home and in the paid labour market, few have focused directly on the space connecting these two spheres: the commute. Neither quite paid work nor leisure, commuting time can be arduous or pleasant and is determined by factors within and outside any individual's control. Further, commuting times will impact the overall time available to spend on paid labour or unpaid housework and, thus, may mark an important missing piece in the larger gender inequality puzzle.

Using the 2016 long-form Canadian Census, we employ a seemingly unrelated linear regression model to predict intra-household variation in journey-to-work times, controlling for individual, spousal, and household characteristics. Whereas most studies of gender inequality focus on differences across households rather than the within-household distribution of resources (Browning & Gørtz, 2012), we make an important contribution to the literature by assessing male and female partners within the same models. This allows us to better identify the relative impacts of broader structural factors, such as occupational sex segregation or geographic availability of jobs, along with within-household variation in terms of home ownership and children, and within-individual differences in human capital or immigration status.

Our study explores competing economic and sociological theories to assess how employment commuting time is determined by rational individual decisions, structural constraints in the labour market, gender roles, and/or gendered power dynamics. If labour market decisions are based purely on what makes economic sense or on the structure of the economy, commuting times should be gender-neutral and driven by differences in individual earnings or occupational sector. However, our findings indicate gendered differences in what predicts commuting times, supporting sociological theories of gender-role ideology and power.

1.1 Background

Commuting. Among workers 16 years and older in the United States, the average commute time in 2023 was 26.8 minutes, and 8.9% commute at least 60 minutes per day (US Census Bureau, n.d.). Statistics are similar in Canada, where roughly half the population (16.4 million Canadians) commutes to work, and commuters spend an average of 26.4 minutes travelling to work (Statistics Canada, 2024).

Not only do large swaths of the population commute, but commuting patterns are highly gendered and have important implications for family life (Hanson & Pratt, 1995; Kim et al., 2012; O'Kelly et al., 2012; Rouwendal & Nijkamp, 2004; Sermons & Koppelman, 2001; White, 1977; Wyly, 1998). Many studies have shown that women work closer to home and drive less than men (Axisa et al., 2012; Hjorthol & Vågane, 2014; Wheatley, 2014). In the United States, men are more likely to have

longer commutes than women, with 39% of men and 32% of women reporting commutes 30 minutes or longer in the American Community Survey (US Census Bureau, 2021).

Given that 'bad' jobs, characterized by part-time hours, poor benefits, lower wages, and less room for growth tend to be more widely dispersed geographically, a shorter commute for women reflects a more restricted labour market (Hjorthol & Vågane 2014). Sandow and Westin (2010) note that in general, long-distance commuting can lead to higher incomes for everyone in their Swedish sample but that the returns were greater for men than women. Further, they found that long-distance commuting had a negative impact on the earnings of one's partner, more so for wives of long-distance commuter husbands than for husbands of commuter wives. Given this, they conclude that "long-distance commuting can therefore sustain not only gender differences in the labour market but also in households" (Sandow & Westin, 2010, p. 442).

Research further indicates that gendered differences in long commutes have some negative impacts on the ability of workers to fulfill their family responsibilities (Turcotte, 2011), decrease men's relative share in housework (Stenpaß & Kley, 2020), and increase the risk of relationship dissolution (Kley & Feldhaus, 2018; Sandow, 2014). In their propensity-score matching analysis of the Dutch Time Use Survey for the years 2000 and 2005, Gimenez-Nadal and Molina (2016) found that women's household labour had double the impact on their commuting time as it did for men and that childcare responsibilities had an effect only on women's commuting time. McQuaid and Chen (2012) also found different effects of family responsibilities for men and women in the UK, but that having children *increases* men's commuting times while *decreasing* women's. Deding et al. (2009) further showed that, at least in the Netherlands, women with children are more likely to change jobs to shorten their commutes than women workers without children, which they presume is due to women's greater responsibility for childcare than men.

Understanding why the introduction of children changes commuting times differently for men and women may depend on whether commuting is seen as a form of labour or recreation (Wheatley, 2014; Wheatley & Bickerton, 2016). Though commuting is commonly considered inconvenient or tedious, it is not paid work time and could be characterized as leisure time. Research has shown that some people enjoy commuting, as it allows them a sort of break from the drudgery of their daily lives and helps with the transition from home to work life and vice versa (Guell et al., 2012; Mokhtarian et al., 2001; Ory et al., 2004; Ory & Mokhtarian, 2005). In fact, according to the 2005 Canadian General Social Survey, a higher percentage of respondents reported disliking housework-including cleaning the house, grocery shopping, and fixing or maintaining their house—over commuting (Turcotte 2008). Further, growing research shows that parenthood is related to lower emotional wellbeing and higher rates of depression (Evenson & Simon, 2005) compared to those who are child-free. One can, therefore, imagine that longer commutes would sometimes seem preferable, such as when the alternative is wrangling hungry children out of daycare and into car seats at the end of a long workday.

Theoretical considerations. There is little theorizing on household decision-making regarding commuting in particular. However, much has been written to explain gendered differences in other forms of household divisions of paid and unpaid labour. Explanations tend to assess four main schools of thought: (a) the neoclassical economic utility maximization model (Mincer, 1978); (b) the 'relative resource' theory (Blood & Wolfe, 1960; Hesse-Biber & Williamson, 1984); (c) a structural approach emphasizing differences in occupational contexts (Benson, 2014); and (d)

gender-role ideology (Hood, 1980; Shauman & Noonan, 2007). We explore these theories to see how they may help better understand potential gender differences in commuting.

Neoclassical economics. Explanations for why families divide labour vary by discipline. As Neilson and Stanfors (2018) discuss, economists, such as Becker (1985), argue that family divisions of paid and unpaid labour result from families trying to 'maximize family utility,' and the comparative advantages each partner can draw on when bargaining for their relative roles. In households where men earn more money, they can negotiate their way out of housework, as their resources are deemed better allocated to maximizing household earnings. The theory implies that women with higher incomes would hold the same bargaining power, something sociologists dispute (Shauman & Noonan, 2007).

Traditional microeconomic explanations suggest that family members will subjugate their economic interests as a rational choice to maximize the overall family benefits (Bielby & Bielby, 1992; Mincer, 1978). Thus, if men have greater earnings potential, women will sacrifice their careers if it means that the family will increase its total income. These models have typically been measured by controlling for gender differences in human capital to assess whether men and women have similar returns on their human capital investments. However, Shauman and Noonan (2007) found that equalizing human capital—beyond just educational attainment—does not lead to equal income returns from family migration. And, given the current context in which women are outpacing men in terms of educational attainment (van Hek et al., 2016), such models make little sense in explaining gender inequality today.

Additionally, we can see such theories falling short within the particular context of commuting time, as opposed to income. Time does not work in the same way as money. Time is a finite resource, with only so many hours in a day that one can use it as one wishes. Though partners can decide how to allocate time, such arrangements will never increase the total time availability. Unequal allocations of time-intensive responsibilities between parties will always mean that one party has more free time than the other. Often, this disproportionately affects women (Devetter, 2009; Neilson & Stanfors, 2018).

'Relative resource' theory. Similar to these economic theories is the 'relative resource' theory (Blood & Wolfe, 1960; Rodman, 1972), which applies social exchange theory (Cook & Emerson, 1978; Emerson 1964) to explain how couples make decisions in families. These sociologists see household labour as a field of negotiation in which those with more power can claim greater control over their tasks. Power is typically measured in terms of education, income, and occupational status which Blood and Wolfe (1960) found "the husband brought to the marital decision-making area, and which gave him greater leverage in making decisions" (Rodman, 1967, p. 321). Additionally, women lost leverage when they had children and consequently did not work, as they became more dependent on their husbands (Rodman, 1967). Thus, in contrast to microeconomic theories that suggest unequal divisions of labour are determined based on what is best for the family as a whole, relative resources theory emphasizes differences in *power* within families that lead one partner to utilize their resources to their greater advantage. Importantly, to this school of thought, this power is derived from achieved statuses rather than simply ascribed to one's gender.

However, these theories are somewhat dated, as they come from an assumption of a labour market in which a male primary earner and a female homemaker are realistic

roles when, in reality, these are decreasingly plausible today in a context of stagnating wage growth. Since the 1980s, women have been increasing their participation in paid work at a pace disproportionate to men's contributions to unpaid labour in the home (Marshall, 2006). Further, despite significant increases in the number of dual-earner families with children (Statistics Canada, 2016) and primary 'breadwinning' wives (Sussman & Bonnell, 2006), sociological research has shown that gender ideology continues to be a strong predictor of who does what in households (Neilson & Stanfors, 2018).

Structure of the labour market. More recently, scholars have suggested that the gender disparities in work and family outcomes are less a result of characteristics of individuals within couples as much as entrenched patterns in the structure of the labour market. Given long-standing evidence of occupational sex segregation (Reskin, 1993), men and women are sorted into different occupations that vary not only in terms of earnings but also in terms of geographical dispersion (Wheatley, 2013). For instance, Benson (2014) explores this argument by predicting the likelihood of moving for work given the degree of clustering within one's occupation and family characteristics. He finds that though women are less likely to relocate for work than men, this is due less to gender-biased prioritizing of men's careers over women's than to the greater geographical dispersion of 'men's jobs' over 'women's jobs. As Benson (2014, p. 1619) argues:

Although most two-earner families feature husbands in geographically clustered jobs involving frequent relocation for work, families are no less likely to relocate for work when it belongs to the wife. I conclude that future research in household mobility should treat occupational segregation occurring prior to marriage rather than gender bias within married couples as the primary explanation for the prioritization of husbands' careers in household mobility decisions.

However, Benson's research has tended to focus on urban areas rather than rural areas. As more rural areas have fewer job opportunities and persistently higher levels of poverty (Partridge & Rickman, 2008) and given that access to urban employment can be a key determinant for maintaining rural populations (Partridge et al., 2010), there may be important differences in the effects of geographical dispersion given the degree of rurality. Whether this would be gendered is as yet unclear.

Gender roles. Shauman and Noonan (2007), for example, tested these structural models against a gender role model to assess the impact of family moves on men's and women's work outcomes. Employing difference-in-difference models on the US Panel Survey of Income Dynamics, they predicted earnings and employment status by family migration (i.e., did the family move), controlling for human capital and household indicators. Overall, they found that while men experience earnings growth when families migrate, women experience earnings decline and inconsistent employment. They conclude by noting that "women who are the most committed to their jobs and who are the main breadwinners in their families...are the ones who face the largest earnings penalty as a result of family migration" (Shauman & Noonan, 2007, pp. 1758–1759). Though structural models may explain men's career

outcomes, they are not empirically supported for women, thus adding to the body of evidence supporting gender-role theories to explain gender inequity in the labour force.

The gender-role model suggests that men's and women's work and family roles are not simply a response to gendered differences in human capital or gendered differences in the structure of the labour market but that there remain firmly embedded social norms that create expectations for appropriate housework and labour market roles based on gender (Bielby & Bielby, 1992; Hood, 1980; Milner et al., 2019). Similar to the social exchange-relative resource theories, allocating paid and unpaid labour within families is a negotiation; however, underlying these negotiations are beliefs about which partner is ideally suited to each task. In their analysis of the 1997 Quality of Employment Survey in the United States, Bielby and Bielby (1992) explored how human capital and attitude differences between men and women predicted the likelihood of respondents' reluctance to move to a new community if offered a "much better" (p. 1249) job because of family obligations. They found that men were unwilling to sacrifice job advancement for their wives, but wives were willing to do so for their husbands, controlling for human capital, current job investments, spouse's job investments, family investments, and genderrole ideology. Further, these differences were more pronounced among those espousing traditional views of men's and women's work and family roles, though these beliefs mediated only "some, but not all, of the asymmetry" (Bielby & Bielby, 1992, p. 1259). However, they nuance their analyses with their findings that gender roles do not trump all decision-making, as families will relocate for a woman's career advancement if "the economic viability of the family is threatened" (Bielby & Bielby, 1992, p. 1260). Thus, as Bielby & Bielby (1992) conclude:

...traditional wives' subordination of their job interests to those of their husbands is not the outcome of an explicit, zero-sum bargaining process in which traditional husbands have the resources to make their private interests prevail. Instead, a traditional husband's power is indirect and culturally mediated (Lamont & Wuthnow, 1990) to the extent that his role as provider is taken for granted and mutually recognized as legitimate by both spouses (p. 1261).

Their findings challenge both maximizing utility and resource exchange theories since they cannot explain why traditional wives are deterred from pursuing personal gain when husbands are well-established in their careers. Still, traditional husbands would not avoid pursuing career advancement opportunities regardless of how established their wives were in their careers. One could argue that wives are more altruistic and choose not to use the potential power they attain through their economic position (England 1989, as cited by Bielby & Bielby, 1992); this would suggest that non-traditional men and women are somehow less altruistic than traditional women, for which there is no evidence.

Another potential limitation of utility functions is that many workers may not fully understand inter- and intra-regional wage premiums and occupational concentrations. As such, they probably do not move with a complete understanding of the characteristics of the job they commute to. More recent qualitative research and the rich literature on social reproduction have also shown a persistence of gender role ideologies despite advances in women's labour market attainment and potential increases in power. In Ranson's (2010) study of non-traditional families, such as those with a primary earner mother, she found that mothers still held 'executive responsibility' for children. This became more salient when they partnered with fathers who stayed home. She suggests that gender ideologies dictating that mothers are supposed to be more knowledgeable or expert about children means that even primary-earner mothers take on executive responsibility for decision-making about their children. She further points out that the primarily stay-at-home fathers in her study typically engaged in at least some paid work-from-home or other traditionally masculine pursuits, such as renovating their homes, to demonstrate their continued capacity to contribute financially to the families. Similarly, Hauser (2015) also found that mothers who are not committed to traditional gendered parenting roles in principle, nonetheless "succumb to traditional patterns of gendered parenting as a result of maternal identity" (p. 345). Thus, even in non-traditionally gendered families (e.g., mother as primary earner, father as care provider), dominant gendered ideologies continue to be important to parents' self-conceptions and, as a result, to the decisions they make about work and family.

Similarly, social reproduction scholar Fox (2006) found in her study of class differences in intensive motherhood that "time was a scarce resource over which they had little control. Some of the women, who were 'accomplished' in the labour force and not financially dependent on their partners, felt entitled to spend their time on the baby." (p. 255). At the same time, women lacking labour market security were more likely to prioritize the needs of their husbands. However, her participants did not "feel sufficiently entitled to spend time on themselves." (Fox, 2006, p. 255).

Though some have suggested that progress has been made in this area, the persistence of these particular gender roles in social reproduction became particularly salient during the COVID-19 lockdowns (Collins et al., 2021; Stevano et al., 2021; van Tienoven et al., 2023; Waddell et al., 2021). For example, research in the US found that from February through April 2020, "mothers with young children reduced their work hours four to five times more than fathers" (Collins et al., 2021, p. 1). Whether or not all parents fall into these traps is unlikely. However, evidence suggests that maternal identities continue to be tightly linked to hands-on parenting, and breadwinner ideologies still drive fathers.

Gendered Power & Commuting. Overall, the evidence suggests that gender disparities are not embedded purely in roles, jobs, or human capital but also in gender. The implications of this are that simply moving women into positions of male authority does not automatically confer the power that men hold in those positions. Conversely, when men move into traditionally female roles, they do not automatically lose the power they otherwise had (Williams, 1993). To Weber (1978), "Power' (*Macht*) is the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which the probability rests" (p. 53). Thus, the power can be as grand as controlling an army or as mundane as deciding who has to pick up the kids from school and who gets to relax on the train ride home.

In this research, we explore the relative commuting times of men and women within households to identify whether such patterns result from rational economic decisionmaking, structural constraints, or gendered differences in power. While relative resource theory would suggest that money or a prestigious job can buy a person the

power to control one's commute, gender ideology theory would predict that this works only for men. If commuting times are purely a result of rational economic decisions within families, we should see similar returns on economic characteristics of men and women for commuting. This could mean that higher earning or higher status jobs increase or decrease commuting times, but the direction should be identical for men and women. If structural constraints in the labour market best explain commuting behaviour, we should see that men and women are located in different occupations but that these occupations have the same impact on commuting times. Further, if gendered family roles explain commuting times, we expect that being married and having children will increase men's commuting times and decrease women's commuting times, as women will be more likely to be responsible for childcare activities. Finally, if gender drives power utilization, we should see gendered differences in returns on human capital and characteristics assumed to bring more power-such as immigration, being considered the head of the household, earning a higher share of household income, and so on-regardless of family status.

2.0 Methods

2.1 Sample

This study uses confidential individual-level data from the 2016 long-form Canadian Census, available through the Statistics Canada Research Data Centre Network, to investigate the individual and spousal characteristics of commuting duration. These data contain a 20 percent sample of all Canadians and detailed information on the population's socioeconomic and demographic characteristics. As this study focuses on how employment commuting decisions are influenced by gender within families, the unit of analysis is heterosexual census families where a married or common-law couple live together and are both currently employed outside the home. The sample consists of couples where both spouses are between the ages of 25 and 54. This age range was selected to minimize the probability of having someone who is retired or in school while still capturing the majority of the years in which individuals are in their prime working years. In total, this yielded an unweighted sample size of 540,610 households.

2.2 Measures

The dependent variable of interest is commuting duration, which indicates the amount of time—in minutes—an individual spends commuting to and from work. It is important to note that the census only records direct commuting and does not account for stops that people may take along the way (which is likely also gendered, as women will be more likely to pick up groceries, children, etc.). The observed covariates are divided into three groups of effects:(a) individual effects, (b) partner effects, and (c) family effects. Individual effects refer to characteristics of the worker that may influence their commute duration to work, including (a) distance from home (in kilometres); (b) age (in years); (c) income (logged for full models); (d) share of total household income; (e) being the primary household maintainer (i.e., the person primarily responsible for paying household bills), (f) work hours, (g) immigration status (ever immigrated and years since immigration), (h) employment status (employee/unpaid family worker/self-employed; employee was omitted category in full models), (i) level of education (no degree/high school diploma/college or apprenticeship/university; college was omitted), and (j)

occupational sector (20 categories from National Occupational Classification; manufacturing was omitted). Partner effects measure the same characteristics but of the commuter's spouse or common-law partner. Family effects measure characteristics that do not vary across the couple and include variables such as home ownership, home value (logged in full models), marital status (married or common-law), number of children aged 0–5 and number of children aged 6–18, and urbanity (Toronto, Montreal, Vancouver/Other Metropolitan Area/Small City/Rural; Toronto, Montreal, Vancouver was omitted).

2.3 Data Analysis Strategy

To identify the factors that contribute to commute duration and to jointly capture the husband-male partner's and the wife-female partner's commuting decisions in a family, first descriptive statistics split by gender are calculated, followed by two seemingly unrelated regression models (for detailed information on this procedure, see Greene (2012)). One of the fundamental assumptions of any single equation model—ordinary least squares regression, probit regression, and so forth—is a randomly selected sample with exogenous regressors and normally distributed error terms, and even though this may be the case at the household level, within-household observations are, by definition, linked together through observed and unobserved characteristics. As such, a single equation model is inappropriate for studying how individual and spousal characteristics affect commute duration because it does not allow for correlations in error terms within couples.

Seemingly unrelated regression models are instead utilized because we believe that spouses' journey-to-work decisions are correlated with one another and that unobserved characteristics unique to the same census family impact both husband and wife work travel decisions. In addition, considering that people self-select their partners, it is reasonable to assume that a husband and wife might share some unobserved characteristics that would affect their commute duration—preference for a big backyard, aversion to urban living, and so on. To adjust for the correlation in error terms, a simultaneous equation model is estimated as follows:

$$Y_{1i} = \beta_0 + IND_{1i}\beta_1 + SPOUSE_{1i}\beta_2 + FAMILY_{1i}\beta_3 + u_{1i}$$
(1)

$$Y_{2i} = \alpha_0 + IND_{2i}\alpha_1 + SPOUSE_{2i}\alpha_2 + FAMILY_{2i}\alpha_3 + u_{2i}$$
(2)

The first equation represents the husband-male partner's commuting duration, and the second represents the wife-female partner's. Three sets of covariates are included to model the decision to commute in the family context. The vector *IND* includes a set of individual characteristics for the husband and wife in each equation, while the *SPOUSE* vector represents the characteristics of the individual's partner who lives in the same census family, and the vector *FAMILY* assesses shared characteristics like homeownership and the presence of children. It is assumed that $cov(u_{1i}, u_{2i})$ is not necessarily equal to zero, but if $cov(u_{1i}, u_{2i}) = 0$, the estimates from the two-equation model are consistent with the results of estimating the standard regression model for each equation separately. The seemingly unrelated regression model results will be more efficient than those from the separate models if the disturbances in the two equations of the husband and wife's commute durations are indeed correlated.

3.0 Results

3.1 Descriptive Statistics

Table 1 presents the weighted sample means/proportions of families and individuals broken down by gender—we employed t-tests to confirm the statistical significance of male-female differences.

Table 1. Weighted Descriptive Statistics (Means & Proportions) of Individuals Within Census Families, Split by Gender (Census of Canada 2016, (Statistics Canada 2017)

	Men	Women
Distance from home to work	31.21	15.56
Commuting duration	27.36	24.47
Age	41.61	39.67
Total income	\$79,879.51	\$55,058.61
Log of total income	11.03	10.67
Share of total income	0.56	0.41
Hours worked for pay	39.14	31.17
Employee	0.93	0.95
Unpaid family worker	0.00	0.00
Self-employed	0.07	0.05
Worked mainly full-time weeks in 2015	0.96	0.80
Worked mainly part-time weeks in 2015	0.03	0.18
Head of household (primary maintainer)	0.68	0.32
Immigrant	0.25	0.25
Years since immigration	4.19	3.93
Toronto, Montreal and Vancouver	0.34	0.34
Census Metropolitan Areas outside of TMV	0.39	0.39
Census Agglomerations	0.12	0.12
Rural Areas	0.14	0.14
No certificate, diploma or degree	0.07	0.04
High school diploma	0.20	0.16
College education	0.37	0.34
University education	0.36	0.46
Managerial skill level	0.17	0.10
Professional skill level	0.21	0.29
High school skill level required	0.35	0.30

Table 1 continued		
On the job training only	0.21	0.25
Managerial skill level	0.07	0.07
Manufacturing	0.16	0.06
Agriculture, forestry, fishing and hunting	0.01	0.01
Mining, quarrying, and oil and gas extraction	0.03	0.01
Utilities	0.02	0.01
Construction	0.07	0.02
Wholesale trade	0.06	0.03
Retail trade	0.09	0.10
Transportation and warehousing	0.06	0.02
Information and cultural industries	0.03	0.02
Finance and insurance	0.05	0.07
Real estate and rental and leasing	0.01	0.01
Professional, scientific and technical services	0.08	0.07
Management of companies and enterprises	0.00	0.00
Administrative & support, waste management &	0.03	0.03
remediation services		
Educational services	0.06	0.14
Health care and social assistance	0.05	0.23
Arts, entertainment and recreation	0.01	0.01
Accommodation and food services	0.04	0.05
Other services (except public administration)	0.04	0.04
Public administration	0.1	0.08

At the individual level, men work about twice as far from home as women (31 km vs 16 km, respectively) and spend approximately 3 minutes more commuting than women on average (27.4 vs. 24.5 minutes). Men also have a higher annual income (\$80,000 vs. \$55,000), hold a higher share of total household income (56% vs. 41%), and work more hours per week than women (39 vs. 31). The gap in work hours shrinks to 42 vs. 36 hours, for men and women respectively, however, when eliminating those who reported working zero hours during the particular week asked about in the survey. Men and women are approximately equivalent regarding self-employment, age, and immigration status/history. Men have lower educational attainment levels than their female counterparts, with a higher proportion of men having attained a university degree (36% vs 46%). Men also are less likely than women to be employed as professionals (21% vs. 29%), although men are more likely than women in terms of what industry they work in. Still, men are more

likely than women to work in construction (7% *vs.* 2%), manufacturing (16% *vs.* 6%), or wholesale trade (6% vs 3%) and much less likely to work in educational services (6% *vs.* 14%) or health care and social assistance (5% *vs.* 23%).

Turning to family characteristics (see Table 2), most families (81%) own their own homes, with an average value of around \$370,000. Moreover, the average rent is approximately \$1,200 per month. Most couples are married (71%) with just over one child under 18.

Table 2: Weighted Descriptive Statistics (Means & Proportions) of FamilyCharacteristics (Census of Canada, 2016; Statistics Canada, 2017)

	p/\overline{x}	
Homeowner	0.81	
Home value	\$369,580.80	
Log of home value	10.35	
Monthly rent	\$1,200.78	
Log of monthly rent	7.09	
Couple is married	0.71	
Number of children in census family aged 0 to 5	0.39	
Number of children in census family aged 6 to 18	0.79	

3.2 Regression Results

The estimated coefficients of the seemingly unrelated regression model are presented in Table 3. The first model contains only individual and partner characteristics, whereas Model 2 includes household characteristics. Coefficients for the predicted commuting duration are presented separately for males and females, with the significance level for each coefficient shown in adjacent columns. Thus, in column 2, changes to commuting duration for men are predicted while controlling for his characteristics (e.g., his age, income, immigrant status and so on), his wife's characteristics (e.g., her age, income, and so on), and, in Model 2, his family (if they own a house, its value, etc.). In column 4, the model is calculated for women with the same controls.

	Model 1					Model 2				
	M	en	Women		Ν	/Ien	Wo	omen		
	В	P > z	В	P > z	В	P> z	В	P > z		
Personal Characteristics										
Age	0.01		-0.05	***	0.00		-0.04	***		
Total income, logged	0.11		0.30	***	-0.12		0.36	***		
Share of household income	5.23	***	7.43	***	4.72	***	9.22	***		
Average number of hours worked per week	-0.03	***	-0.02	***	-0.03	***	-0.02	***		
Number of hours of unpaid work per week	-3.95	***	-3.89	***	-4.33	***	-3.57	***		
Self-employment indicator	-4.83	***	-5.09	***	-5.00	***	-4.98	***		
Employed full-time	-2.12	***	-0.72	***	-2.13	***	-0.98	***		
Employed part-time	-1.82	***	-2.39	***	-1.71	***	-2.32	***		
Head of household	-0.44	***	0.10		-0.60	***	-0.01			
Immigrant	1.63	***	2.77	***	1.51	***	2.86	***		
Years since immigration	-0.02	***	-0.04	***	-0.02	***	-0.04	***		
Resides in large city (CMA)	-3.61	***	-5.05	***	-3.71	***	-5.05	***		
Resides in small city (census agglomeration)	-5.19	***	-9.52	***	-5.26	***	-9.52	***		
Resides in rural region	-3.02	***	-6.40	***	-3.07	***	-6.44	***		

Table 3. Seemingly Unrelated Regression Results Predicting Commute Time by Individual, Spousal, and Household Characteristics (Census of Canada, 2016; Statistics Canada, 2017)

Less than high school education	-0.82	***	-0.89	***	-0.72	***	-0.83	***
High school diploma	-0.96	***	-0.77	***	-0.96	***	-0.78	***
Bachelor's degree or higher	0.08		0.61	***	0.09		0.55	***
Managerial skill level	-0.09		0.73	***	-0.16		0.72	***
Professional skill level	0.55	***	0.79	***	0.56	***	0.74	***
High school skill level required	-1.09	***	-0.81	***	-1.03	***	-0.77	***
On the job training only	-1.76	***	-1.00	***	-1.64	***	-0.93	***
Agriculture, forestry, fishing and hunting	-0.43		-1.31	***	-0.20		-1.28	***
Mining, quarrying, and oil and gas extraction	14.51	***	8.86	***	14.50	***	8.70	***
Utilities	3.84	***	4.38	***	3.82	***	4.30	***
Construction	3.77	***	0.80	***	3.76	***	0.84	***
Wholesale trade	0.83	***	1.20	***	0.81	***	1.20	***
Retail trade	-2.43	***	-2.43	***	-2.40	***	-2.43	***
Transportation and warehousing	1.45	***	1.31	***	1.42	***	1.31	***
Information and cultural industries	3.19	***	3.19	***	3.27	***	3.15	***
Finance and insurance	4.51	***	3.57	***	4.48	***	3.57	***
Real estate and rental and leasing	-1.02	***	0.04		-0.98	***	0.08	
Professional, scientific and technical services	2.59	***	2.72	***	2.64	***	2.69	***

Management of companies and enterprises	5.10	***	4.58	***	5.06	***	4.53	***
Administrative and support, waste management	2.06	***	2.63	***	2.15	***	2.67	***
and remediation services								
Educational services	-1.91	***	-3.13	***	-1.96	***	-2.91	***
Health care and social assistance	-1.23	***	-1.04	***	-1.18	***	-0.98	***
Arts, entertainment and recreation	-0.30		-0.09		-0.24		-0.09	
Accommodation and food services	-2.41	***	-2.86	***	-2.35	***	-2.78	***
Other services (except public administration)	-1.81	***	-0.59	***	-1.82	***	-0.56	***
Public administration	0.82	***	3.17	***	0.79	***	3.18	***
Spousal characteristics								
Commuting duration to work (minutes)	0.48	***	0.36	***	0.48	***	0.36	***
Age	0.07	***	-0.02	***	0.06	***	0.00	
Total income, logged	0.02		0.29	***	-0.18		0.41	***
Share of household income	-2.79	***	-0.01		-3.39	***	1.33	***
Average number of hours work per week	0.00		0.00	*	0.00	*	0.01	**
Number of hours of unpaid work per week	0.52		-1.18		0.23		-0.92	
Self-employment indicator	1.71	***	0.25	*	1.55	***	0.33	***
Employed full-time	-0.16		0.99	***	0.14		0.91	***

Employed part-time	0.53	**	1.01	***	0.64	**	0.95	***
Immigrant status	-0.77	***	0.84	***	-0.81	***	1.12	***
Years since immigration	0.04	***	0.00		0.04	***	-0.01	
Less than high school	0.06		0.09		0.16		0.11	
High school diploma	0.18	*	0.19	**	0.20	*	0.22	***
Bachelor's degree or higher	-0.47	***	-0.48	***	-0.48	***	-0.44	***
Managerial	-0.37	***	-0.49	***	-0.41	***	-0.42	***
Professional	-0.18	*	-0.30	***	-0.20	*	-0.29	***
High school required	0.37	***	0.32	***	0.38	***	0.32	***
On the job training	0.18		0.36	***	0.25		0.37	***
Agriculture, forestry, fishing and hunting	-0.16		-0.06		-0.04		-0.16	
Mining, quarrying, and oil and gas extraction	-5.20	***	-5.91	***	-5.11	***	-5.89	***
Utilities	-1.31	***	-1.18	***	-1.30	***	-1.22	***
Construction	-1.01	***	-1.03	***	-1.03	***	-1.04	***
Wholesale trade	0.20		0.04		0.18		0.05	
Retail trade	1.54	***	0.59	***	1.61	***	0.56	***
Transportation and warehousing	-0.20		-0.46	***	-0.21		-0.44	***
Information and cultural industries	-1.10	***	-0.55	***	-1.03	***	-0.59	***

Finance and insurance	-0.68	***	-0.85	***	-0.72	***	-0.86	***
Real estate and rental and leasing	0.46		-0.37		0.48		-0.35	
Professional, scientific and technical services	-0.79	***	-0.80	***	-0.76	***	-0.85	***
Management of companies and enterprises	-0.83		-1.47	**	-0.88		-1.43	***
Administrative and support, waste management and remediation services	-0.42	*	-0.13		-0.35		-0.11	
Educational services	2.01	***	0.09		1.88	***	0.14	
Health care and social assistance	1.10	***	0.03		1.08	***	0.03	
Arts, entertainment, and recreation	0.24		-0.18		0.30		-0.23	
Accommodation and food services	1.21	***	0.34	*	1.29	***	0.33	*
Other services (except public administration)	0.56	**	0.50	***	0.60	***	0.54	***
Public administration	-0.25		-0.09		-0.28		-0.08	
Household characteristics								
Dwelling is owned					0.09		1.50	***
Value of dwelling, logged					0.24	***	-0.13	***
Rental costs, logged					0.25	***	-0.08	*
Couple is married					0.72	***	-0.36	***
Couple has children under age 5					0.29	***	-0.08	

Couple has children age 5–18					0.43	***	-0.95	***
Intercept	13.93	***	12.35	***	16.38	***	9.08	***
Model Fit Statistics								
R-Squared	0.09		0.14		0.09		0.14	
AIC	9,195,005				9,192,981			
BIC	9,196,752				9,194,862			

Note: *p < .05 **p< .01 ***p < .001

Looking first at the individual characteristics of men, we see that (a) age; (b) income; (c) higher education; (d) having managerial job skills; or (e) working in agriculture, forestry, fishing, and hunting; or (f) arts, entertainment, and recreation—relative to manufacturing—have no significant effect on commuting time. A few factors increase men's commutes, including increasing their contributions to household income, being a professional, or working in a number of occupations other than manufacturing, most notably mining, quarrying, and oil and gas extraction. Being an immigrant also increases commuting time for men, but the longer the years since immigration, the lower the commute. Lower levels of education decrease commuting time, as does living outside Montreal, Vancouver, or Toronto, being head of household, working more paid or unpaid hours, being self-employed, a manager, in a job that requires high school skills, or on-the-job training only.

Women follow a similar pattern to men, with a few important exceptions. Whereas age, education, and income had no effect on men, increases in each of these variables—typically associated with increasing power—actually increased women's commuting time. Similarly, increasing women's share of household income doubles the impact on their commuting time than the men's coefficient. Additionally, whereas being head of household decreases men's commuting time, this factor has no significant effect on women's commute times. Though paid and unpaid work hours both have a negative effect on commute times, the impact is greater for men than for women. In other words, men receive a higher return on unpaid work in terms of commuting time than women.

Further, being a manager had no significant impact on men's commuting times but increased that of women. Occupations, in general, have similar impacts in terms of direction and magnitude on commuting times, but mining, quarrying, and oil and gas extraction jobs increase commutes far more for men than for women. Overall, we see in terms of individual characteristics that men's commuting times are decreased more, given various traits typically associated with greater power (share of household income, household head) compared to women. In some cases, such as education and income, women travel further to realize their human capital.

Moving down Table 3 to spousal characteristics, we can see evidence that having a higher achieving spouse decreases men's commuting times but increases women's, with some exceptions. For example, looking at the men's column, husbands' commutes are unaffected by the increasing income of their wives, but they decrease by 3.39 minutes as their wives' relative share of household income increases. For wives, as their husband's incomes and their husbands' share of household income increases, women's incomes also increase. Having an immigrant spouse decreases men's commutes but increases women's, which may indicate intersecting power differences based on immigration and gender. Similarly, having an older wife increases men's commuting time, but having an older husband does not affect that of women. Most other spousal coefficients are similar for both genders.

Finally, turning to household characteristics, we see the most dramatic differences in the impacts on men's and women's commuting times. Owning a home results in increases for women but does not affect men, suggesting that homes tend to be purchased closer to men's workplaces. Housing costs decrease women's commuting times but increase men's, implying that women must pay more to live close to work. Additionally, we can see clear patterns consistent with the literature on the impact of family. Marriage and having children have a significant impact on increasing men's commuting times while decreasing women's.

To aid in interpreting these results, we also calculated predicted commute times based on a series of hypothetical scenarios (see Table 3), which come from the results of our regression models. We first placed eight ideal types along axes of power and degree of family responsibilities. Power type was defined as high and low for each individual and their spouse. The high-power person was estimated to be a hypothetical 40-year-old non-immigrant with a bachelor's degree and an income 25% above average in a professional, scientific or technical services job requiring managerial and professional skills. The low-power hypothetical person was a 30vear-old immigrant (4 years since immigration), non-head of household, earning 75% of average income, and working in manufacturing. All individuals and spouses, regardless of power, were estimated based on working 40 hours per week, full-time, not self-employed, and residing in Montreal, Toronto, or Vancouver, Canada. We then calculated predicted hypothetical commute times, combining high and low power couples, to make four ideal types: high power individual with low power spouse, high power individual with high power spouse, low power individual with high power spouse, and low power individual with low power spouse. We further divided these groups into high and low family responsibilities. Low family responsibilities meant the couple was unmarried, had no children, and rented their living spaces at the average going rate. High family responsibilities meant the couple was married, had one child under five, one child five-eighteen years old, and owned their home at the average home price. Finally, we predicted the commuting time for each of the eight ideal types for men using the men's equation and the eight ideal types for women using the women's equation, the scores for which are plotted in Figure 1 below.



Figure 1. Predicted commuting time by gender given relative power (based on values from Table 3, model 2).

We see that controlling for (a) human capital, (b) income, (c) occupational sector, (d) spousal characteristics, (e) family responsibilities, and all other measures in our models, men are predicted to have shorter commutes than women. Further, we see that gaps between men's and women's commute times shrink with the introduction of greater family responsibilities, but this is primarily due to men increasing their commutes rather than women decreasing theirs. Interestingly, women and men have the longest commutes in higher power positions, though women's commutes are significantly longer than men's. This indicates that women must travel further to realize their human capital than men. We also see that the biggest gaps in commuting times are when a high- or low-power person is partnered with a low-power person. This indicates that higher- and lower-achieving women have to travel further for work when they are the primary earners and when they are in an equivalently lower status position than their spouses.

With higher family responsibilities, such as home ownership, marriage, and having children, women's commuting times decline slightly, but men's commuting time increases significantly. For example, a high-power man with a high-power wife is predicted to commute 15% less if he has high family responsibilities than if these were low. In contrast, family responsibilities decrease a similarly situated woman by only 3.5%. Thus, though much of the extant literature suggests that having children leads women to *reduce* their commuting time to be closer to home, our evidence indicates that there are few differences between women with and without children, but that compared to childfree men, men with children *increase* their commuting time to work further from home.

Figure 2. Predicted gender difference in commuting time by urbanicity/rurality given relative power between respondent and their spouse (based on values from Table 3, model 2).



To see whether there were differences in the relationship between power and commuting time by urbanicity/rurality, we calculated an additional series of gender differences (men's times minus women's) in predicted commuting time for those with a family by geographical region. As shown in Figure 2, we can see some gender differences in commuting times depending on how urban or rural one's geographic home is. Specifically, those in Toronto, Montreal, Vancouver and other large cities all indicate that men with families, regardless of power differences, have shorter commutes than women. However, in small towns and rural areas, there are scenarios

where women have shorter or approximately equal commuting times than men. Looking only at the differences greater than 1.0, we can see that in small cities and rural areas, high-power women with high-power spouses commute 2.75 and 1.87 minutes less (respectively) than do high-power men with high-power spouses. Similarly, low-power women with high-power spouses commute 2.31 minutes and 1.43 minutes less in small cities and rural areas (respectively). As we cannot assess whether these differences are statistically or substantively meaningful or why these geographical differences appear, future research is needed to explore these findings further.

4.0 Discussion

This study aimed to identify and explain gendered variance in home-to-work commute duration, given the dominant sociological and economic explanations for gender inequality in paid and unpaid labour. We assessed the relative importance of individual worker, work, spousal, and household characteristics to see if human capital differences can best explain gender differences in commuting, rational choices given differences in work characteristics, such as occupational sector or household divisions of labour, traditional family roles, or gendered power differences that transcend these explanations. We found that, on average, women have shorter commutes than men and that many conventional explanations for what increases commutes hold true. Those who work in geographically concentrated industries, such as mining, or those who live in rural areas travel further to get to work. Professionals and those in higher-status, harder-to-come-by occupations with higher incomes are also more likely to travel further to work than those with less education, fewer skills, and in geographically dispersed occupations-such as food service. However, these explanations are insufficient to explain the gaps in commuting between men and women.

Though there is some evidence that social exchange/relative resource theories have merit in that some markers of power do bring greater returns in terms of shorter commuting times, such as being a non-immigrant, some of these markers of power work differently given the gender of the person holding said 'power.' For instance, increasing total income has no impact on men's commuting time but increases women's; and the reverse is true for being the household head (the one who pays the bills), as this decreases men's commuting time but has no statistically significant impact on women's commute times. The share of household income increases commuting times for both men and women, but the increase is nearly twice as much for women (9.2 minutes) as for men (4.7 minutes). Similarly, for men, having a spouse contribute a higher share to household income *decreases* men's commutes by 3 minutes, but *increases* women's by 1.3 minutes. The immigration status of a spouse works similarly as well, where having an immigrant spouse decreases men's commuting times but increases women's. In other words, having a higher-power spouse reduces men's commute times but hikes women's.

Most interesting are the results indicating significant gender differences in the impact of family life on commuting outcomes. In keeping with past literature, married women with children aged 5–18 have shorter commutes than unmarried women without children. However, having a child under the age of five has no significant impact on women's commuting times. For men, marriage and family all increase their commutes at a statistically significant level (p<0.001), with one exception: home ownership. Whereas owning a home does not impact men's

commutes, it increases a woman's commute significantly. With the human capital variables indicating higher education, women in more professional jobs commute more to realize their human capital. This suggests that homes tend to be purchased closer to men's jobs than women's.

Though these results indicate support for patterns of traditional family roles, the fact that the differences in commuting are greater for those without entrenched family responsibilities suggests that the differences are due more to gendered differences in power than simply to unfair attributions of childcare given to women. This is particularly clear from the evidence that marriage and children have a much smaller impact on *decreasing* women's commuting times than they do on *increasing* men's. We surmise that this could be because ferrying children to and from school or daycare may feel more like schlepping and thus be less enjoyable than commuting. Given that we have no measures of the degree of enjoyment of commuting or parenting, we cannot be certain of this particular explanation. It is possible that with the addition of children, men seek more lucrative work to pay for the additional costs they bring. However, given that our models control for many measures of income, share of household responsibilities, and occupation, we find this argument less compelling.

Overall, the preponderance of the evidence shown here suggests that greater markers of power come with shorter commutes for men and longer commutes for women. The implications of this are that women tend to have to travel more to fulfill the promise of their human capital and that couples continue to make geographic decisions that disproportionately benefit men's interests. Further research is needed to tease out what might explain these differences, particularly in identifying the meaning of commuting to different people. Finally, with greater international concern about climate change, these results further point to the importance of sociological explorations into the shifting movement patterns in the space between work and home.

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