



Consequences of Teen Parenthood for Teen Mothers and Fathers in Canada

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Abstract

Teen motherhood is associated with a variety of adverse consequences in prior literature, even after controlling for selection into teen motherhood. The experience of parenthood, however, is highly gendered, suggesting that the consequences of teenage parenthood might differ for teen mothers and teen fathers. This paper examines gender differences in the long-term human capital, health, and wellbeing consequences of teen parenthood in Canada. OLS and logistic regression models with inverse-probability of treatment weights were estimated using pooled data from the 2006, 2011, and 2017 Canadian General Social Surveys. Models estimate the approximate causal consequences of teen motherhood and fatherhood for measures reported between the ages of 30 and 49. We find that becoming a parent as a teen is similarly detrimental for both women and men in terms of high school completion, postsecondary attendance, personal income, self-reported health, and life satisfaction, even 10 to 35 years after becoming a teen parent. These results, however, should be interpreted with caution because they may be affected by the underreporting of children by men. The findings highlight the importance of considering both teen mothers and teen fathers in efforts to isolate the adverse effects of teen parenthood, and that in Canada, teen fathers face similar disadvantages as teen mothers in these outcomes in their early adulthood to midlife.

Resume

De nombreuses études montrent que la maternité précoce est associée à une multitude de conséquences négatives chez les adolescentes, même en tenant compte de l'effet de sélection. L'expérience de la parentalité se caractérise néanmoins par de grandes différences entre les sexes, laissant à penser qu'être parent précocement peut produire des effets distincts chez les pères et les mères adolescents. Dans cet article,

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nous étudions les différences de genre par rapport aux conséquences à long terme de la parentalité adolescente sur le capital humain, la santé et le bien-être au Canada. En nous fondant sur les données regroupées des Enquêtes sociales générales canadiennes (ESG) de 2006, 2011 et 2017, nous avons estimé des modèles de régression MCO et logistique pondérés par la probabilité inverse de traitement. Ces modèles permettent d'évaluer les conséquences causales approximatives de la maternité et de la paternité adolescentes pour tous les indicateurs rapportés entre 30 et 49 ans. Qu'il s'agisse de l'achèvement des études secondaires, de la poursuite des études postsecondaires, des revenus personnels, de la santé autodéclarée et de la satisfaction à l'égard de la vie, nos résultats montrent que devenir parent à l'adolescence est préjudiciable pour les hommes et les femmes de la même façon, même 10 à 35 ans après. Les hommes pouvant sous-déclarer leur paternité, ces résultats peuvent être faussés et doivent être interprétés avec prudence. Nos conclusions soulignent l'importance de considérer indistinctement les mères et les pères adolescents afin d'isoler les conséquences négatives propres à la parentalité précoce, et montrent qu'au Canada, les pères adolescents subissent les mêmes désavantages que les mères adolescentes pour tous ces indicateurs, du début jusqu'au milieu de la vie adulte.

Keywords Teen parenthood · Gender · Fathers · Mothers

1 Introduction

Teenage parenthood has declined dramatically in Canada since the 1970s. In 1974, the fertility rate of women ages 15 to 19 was 34.8 per 1,000 women, which decreased to 25.1 in 1994 (Ford & Nault, 1996), and further declined to 17.3 in 2000, and 7.9 in 2017 (Statistics Canada, 2019a). The proportion of babies born to teenage mothers has also decreased from between 10 to 12% of all births in the mid 1960s to late 1970s, to 5.3% of births in 2000, and only 2.1% of Canadian births in 2017 (Statistics Canada, 2019b). The precipitous decline in teenage parenthood, however, does not mean that the social problem of teenage parenthood is solved and no longer worthy of research, policy attention, or special focus in clinical and counselling contexts. For one, the consequences of teen parenthood are long-lasting in American and British studies (e.g., Chevalier & Viitanen, 2003; Patel & Sen, 2012), so understanding the longer-term outcomes of teen parents in Canada is an important area of study. Additionally, as teenage parenthood becomes less common, the consequences of deviating from the normative timing of the transition to parenthood (and the transition to adulthood, more generally) may become even more pronounced. Moreover, the detrimental effects of teenage childbearing might also be worsened by decreased policy attention and reduced programming aimed at supporting teenage parents as other social issues become more pressing. For these reasons, the consequences of teenage parenthood deserve continued attention.

A large and rich body of work has developed to study the detrimental effects of teenage motherhood, including educational, occupational, health and well-being, and family outcomes. Studies have applied a variety of sophisticated methodological

techniques—including matched samples (e.g., Card & Wise, 1978), instrumental variables (e.g., Chevalier & Viitanen, 2003), sister fixed-effects (e.g., Geronimus & Korenman, 1992), and a variety of propensity-score matching or weighting methods (e.g., Diaz & Fiel, 2016; Lee, 2010)—to account for the possibility that the negative effects of teen motherhood could be due to pre-existing disadvantages, rather than a true effect of teen parenthood. Most studies still find teenage mothers are disadvantaged, even after accounting for the substantive role selection plays (e.g., Kane et al., 2013; Lee, 2010; Patel & Sen, 2012; Stange, 2011), and theorize that teenage mothers experience these disadvantages because early parenthood disrupts their educational, occupational, and psychological developmental trajectories (e.g., Booth et al., 2008; Chevalier & Viitanen, 2003; Coyne & D’Onofrio, 2012; Diaz & Fiel, 2016).

The vast majority of past research on teen parenthood, however, has focused primarily on teen mothers and very little is known about the consequences of teen parenthood for fathers (Bunting & McAuley, 2004; Coleman, 1998; Hollman & Alderman, 2008.) This is a significant gap in our knowledge, given that parenthood is a gendered social role (Sanchez & Thomson, 1997). Women are more likely to be primary caregivers of young children, and this is especially true when the parents are not living together, which is the case for more than half of teenage parents (Coley & Chase-Lansdale, 1998). Women are also the ones who physically carry and birth the child, which may result in acute adverse consequences not experienced by men, such as interrupted schooling and labor market participation. Indeed, two studies that examined the consequences of teen parenthood for men found that teen fathers face fewer and less extreme short-term consequences than teen mothers (Card & Wise, 1978; Winquist Nord et al., 1992). However, more recent research suggests teen mothers may fare better on educational attainment than teen fathers (Mollborn, 2010), and the longer-term effects of teen parenthood on midlife educational and occupational attainment, family formation, social outcomes and physical health tend not to differ between teenage mothers and fathers (Taylor, 2009). While these studies provide important insight, the consequences of teen parenthood, especially for teen fathers in Canada, have been understudied.

This paper contributes to the literature on the consequences of teen parenthood by examining the long-term education, income, self-rated health, and life satisfaction consequences of teen parenthood in Canada, measured between ages 30 and 49, for women and men. The analysis focuses on *teen parenthood* rather than teen conception or teen pregnancy to examine the consequences of taking on the social role of parent off-time. We draw on pooled data from the 2006, 2011, and 2017 Canadian General Social Surveys and employ inverse-probability of treatment weights to adjust for selection into teen parenthood to better isolate the unique effect of being a teen mother or teen father beyond potential confounders on human capital, health, and well-being outcomes.

2 Background

2.1 Teen Parenthood in a Life Course Perspective

We draw from a life course perspective on human development (Elder, 1994; Mayer, 2009) to conceptualize how teen parenthood might be associated with future

outcomes. This perspective draws focus to the importance and timing of transitions (Elder, 1985), as the life course is shaped by the ordering, sequencing, and timing of when important transitions occur (Greenfield & Marks, 2006; MacMillan, 2005). Adherence to the socially normative schedule for undertaking life events provides the best chances for future success due to the social support and material incentives that follow from such pathways (Mortimer et al., 2005). Off-time transitions, on the other hand, may lead to challenges that ultimately disadvantage one's future life trajectory, although people may overcome these difficulties as they adapt and respond to their life situation (Furstenberg, 2005).

Becoming a parent is a particularly profound life transition because it necessarily requires one to be responsible not only for the care and well-being of oneself, but a wholly dependent child. As such, among common markers on the path to adulthood, the transition to parenthood is typically among the last to be completed. Prior research with Canadian adults, for example, examined six important life transitions indicative of becoming an adult and found they typically occur in the following order: finish education, obtain full-time employment, leave the parental home, get married, purchase the first home, and become a parent (Krahn et al., 2018). Although there was variability in the sequence for some subgroups of participants, in keeping with a noted trend in the literature toward less linearity in young adult transitions (e.g., Beauré et al., 2006; Furstenberg et al., 2005; Milan, 2016; Settersten & Ray, 2010), the transition to parenthood was always either the second to last or last transition. Becoming a teen parent, then, upends the normative sequence in dramatic fashion; individuals undertake the transition that demands the most responsibility before any others are likely to have been completed.

Given these considerations, it is likely that teen parenthood, an exceptionally off-time transition in industrialized nations where the average age of childbearing has steadily increased over the last three decades (Sweeney & Raley, 2014), would exhibit a host of negative consequences on future life outcomes including less accumulation of human capital (educational attainment and income), worse health, and lower personal well-being. This assumption has long been held in the literature devoted to teenage parenthood (e.g., Furstenberg, 1976) and has garnered support in many studies. One of the most pervasive findings in the literature is the negative impact of teen parenthood on human capital: studies have repeatedly shown teenage mothers and fathers complete fewer years of schooling, hold less prestigious occupations, and earn less money than their peers who did not become teen parents (Chevalier & Viitanen, 2003; Taylor, 2009; Waite & Moore, 1978), including recent sophisticated work that accounts for selectivity into teen parenthood (Diaz & Fiel, 2016; Kane et al., 2013). Of course, there is much variability in these outcomes among teen parents (Bissell, 2000; Diaz & Fiel, 2016), but, on average, teen parenthood is a hindrance to educational attainment and income.

In terms of health and well-being outcomes, teenage parents report lower levels of self-rated health in the future than those who did not become teen parents (Patel & Sen, 2012; Taylor, 2009) and also have an increased risk of premature death and the development of a variety of physical health problems (Olausson et al., 2004). Research on the influence of teen parenthood on personal well-being is decidedly mixed: some studies report high levels of psychological distress among teen mothers

(e.g., Hudson et al., 2000), others find no change in distress across the transition to early parenthood (including some teenage parents; Booth et al., 2008), and some work demonstrates heightened pre-pregnancy psychological distress that accounts for the reduced well-being among teenage mothers (e.g., a selection effect; Mollborn & Morningstar, 2009; Patel & Sen, 2012).

In sum, there is a theoretical and empirical basis to hypothesize teenage parenthood might serve as a risk factor for less educational attainment and income, lower self-rated health, and, possibly, less life satisfaction. Yet, a life course perspective also acknowledges the remarkable resilience of human beings who may be able to adapt to adverse circumstances and take actions to recover from setbacks (Furstenberg, 2005). As teenage parents grow older, it is reasonable to assume that the impact of this off-time transition to parenthood may fade. Indeed, longitudinal studies of teen mothers find that some of the educational and socioeconomic disadvantages experienced immediately following the transition to teen motherhood are mitigated as time passes (Chevalier & Viitanen, 2003; Furstenberg et al., 1987; Furstenberg, 2003; Zeck et al., 2007). Notably, one study examined long-term outcomes of teen parenthood with a sample of 548 middle aged men and women who first became parents as teenagers to look at their educational and occupational attainment, family formation patterns, social outcomes, and physical and psychological health outcomes (Taylor, 2009). While detriments in terms of education, occupational status, marital instability, and physical health were observed for the teen parents compared to those who became parents later, teenage parents did not differ on job and marital satisfaction, social outcomes and support, or psychological health, highlighting distinct areas of resilience. We focus on these potential longer-term consequences of teen parenthood with a sample of Canadians aged 30 to 49 years and control for age of the participant in our analyses to acknowledge the possibility that older participants may be less influenced by a teen pregnancy that occurred as long as three decades previously.

2.2 The Gendered Nature of Parenthood

Despite the life course perspective's suggestion that the off-time transition to teen parenthood entails negative consequences—at least in the shorter term—for both mothers and fathers, viewing teen pregnancy from a gender lens invites deeper inquiry into its potentially differing consequences for men and women across the life course. The literature on parenting and the transition to parenthood emphasizes that parenting is a strongly gendered activity, and that women's primary responsibility for all aspects of domestic childcare has persisted “[a]cross time, ethnicities, social class, and culture” (Doucet, 2017: 11). Research throughout the West (e.g., Raley et al., 2012), including in Canada (e.g., Doucet, 2015; Ranson, 2010, 2018), reveals instances of revision and challenge to gender scripts surrounding childcare; that said, gender scholars have consistently argued that becoming a parent is *the* most profound marker and exacerbator of gender inequalities across the life course. This deepening of gender inequalities through

cultural and structural expectations that women will assume primary responsibility for parenting is pronounced even in “on-time,” dual-parent arrangements, and even when women are engaged in full-time, paid employment (Beaujot, 2000; Christopher, 2012; Craig, 2006).

Given that couples become more traditional in their household division of labor after the arrival of a baby (Fox, 2009), that fathers in intact families tend to take on secondary “helper” roles in baby care characterized by lesser one-on-one and physical care and much less mental labor (Craig & Mullan, 2011; Walzer, 1996, 1998), and that these gendered divisions persist beyond the initial transition to parenthood (Wall & Arnold, 2007), it is unsurprising that parenting is frequently associated with greater decreases in marital satisfaction and increases in relationship stress for women (e.g., Belsky & Rovine, 1990; Clements et al., 2011; Twenge et al., 2003) and men (Doss et al., 2009). In the context of an off-time transition to teen parenthood, typically characterized by fewer material resources and social supports, we might expect this gender gap in life satisfaction and well-being to be even more pronounced. Indeed, prior studies of teen child-bearing have found that the traditional gender roles (re)produced in the transition to adulthood contribute to limiting teen mothers’ educational and employment outcomes and lowering job satisfaction as compared to teen fathers (e.g., Card & Wise, 1978), although other studies have not found such differences between teenage mothers and fathers (Mollborn, 2010; Taylor, 2009). Conversely, there is some evidence that the transition to motherhood may be empowering and satisfying for some disadvantaged young women (Edin & Kefalas, 2005), and that many teen mothers report receiving extensive residential, financial, and social support from their own families and other adults (Wasserman et al., 1990).

It has also been suggested that the stresses and demands brought on by the (re)production of traditional gender roles in the transition to parenthood intersect with the stress of teen parents’ rapid role transition (Liao, 2003; Thompson, 1986). These stresses are more pronounced for women, who are more likely to have physical custody of children born from teen pregnancies than men, and this is an important source of gender inequality among teen parents. In cases where teen mothers raise a child with minimal or no involvement from the child’s father, the gendered burden of childcare and responsibility is even more pronounced, and suggests a likelihood of contributing to enduring and adverse consequences in terms of education, income, life satisfaction, and self-rated health.

Although the (re)production of traditional gender roles with the onset of parenthood most obviously contributes to micro-level gender inequalities, an overarching culture of intensive mothering in North America also reinforces expectations of gendered care and responsibility (Christopher, 2012; Ennis, 2014; Hays, 1996). Even with a growing cultural push for fathers’ involvement in parenting, there is no parallel expectation of intensive fathering; breadwinning—not caregiving—thus remains at the core of fatherhood (Fox, 2009). In light of the stress that “on-time” mothers in dual-parent households report while striving to meet the expectations of intensive mothering, it is expected that teen mothers would experience an even greater gap between cultural expectations and the resources necessary to fulfill them.

2.3 Teenage Fatherhood

The literature to date, with its heavy focus on teen mothers, has done less to consider the trajectory of teen fathers. The limited studies of teen fathers suggest that background factors that increase the risk of becoming a teen father are remarkably similar to those influencing the risk of teen motherhood (Coley & Chase-Lansdale, 1998). Although it has long been stated by researchers and clinicians that men's lesser involvement in childcare is a loss to children, families, and society (e.g., Chodorow, 1978), we know little about the specific penalties of teen parenthood and subsequent fathering for men's educational and earning outcomes over time, as well as their life satisfaction and self-rated health. Some studies suggest that teen fathers may earn higher incomes than their non-parent counterparts immediately following a birth, in an effort to support their new child, but that these income advantages quickly wane as their typically lower levels of education limit their long-term career progression (Coley & Chase-Lansdale, 1998). Other research, however, finds longer-term disadvantages of teen parenthood (e.g., adverse educational and career outcomes, poor health, marital instability) do not differ between teenage mothers and fathers (Mollborn, 2010; Taylor, 2009).

Studies of “on-time” fathering in intact families emphasize the multi-faceted costs of fathers' marginal involvement in childcare, show emotional, social and cognitive benefits to children of highly involved fathers (Doucet, 2017), and point to a higher quality of spousal relationships when fathers are involved (Norman et al., 2018). Men's higher educational attainment has also been found to correlate with more involvement and provision of one-on-one childcare (Craig, 2006). Teen fathers, who tend to have less education, lower income, and lesser endowments of social and human capital than their older counterparts, are less likely to be able to make the same positive parenting and partner impacts—even in a situation where the teen father remains amicable with and highly connected to the mother and child. Clinical research suggests that, in instances where teen fathers separate from or are never in a committed relationship with the teen mother, there can be great uncertainty and trepidation as to how to stay connected to their child (Nylund, 2006). This, in turn, could be detrimental to teen fathers' self-assessments of life satisfaction.

It is encouraging to note that studies of teen fathers' involvement in childcare reveal considerable participation in their children's lives (e.g., Glikman, 2004; Smith et al., 2002), but this involvement tends to be more limited for fathers who live separately from their children which make up approximately 40% of fathers and approximately 50% of children born to young fathers according to American estimates in the 1990s and 1980s (Furstenberg & Harris, 1993; Lerman, 1986). Teen fathers' limited income and minimal life experience can also hinder the extent of their involvement, and teen fathers are often excluded from programs supporting teen parents (Heath & McKenry, 1993). On a broader societal level, there are institutional and discursive barriers to teen fathers' responsible and involved parenting that interact with the consequences of the fathers' actions to create further disadvantage: economic and educational systems limit teen fathers' socioeconomic pathways, and dominant gender discourses or ideals such as hegemonic masculinity (i.e., culturally idealized

standards for masculinity—see Connell, 1990; Messner, 1997) define involved parenting as antithetical to manhood (Nylund, 2006).

2.4 Current Study

This study addresses a key gap in the literature by examining the long-term human capital, health, and wellbeing consequences of teen parenthood. We pose two research questions. First, are there long-term consequences of teenage parenthood in Canada in terms of high school completion, postsecondary attendance, personal income, self-reported health, or life satisfaction reported between ages 30 and 49? Second, are the long-term consequences of teen parenthood the same for teen mothers and teen fathers? The analyses examine teen parenthood, rather than conception or pregnancy, because we are interested in how becoming a parent off-time influences longer term outcomes.

3 Method

3.1 Data Sources

We pooled data from the 2006, 2011, and 2017 Canadian General Social Surveys (GSS) to examine the consequences of teenage motherhood and fatherhood. Given that teen parenthood is a relatively rare occurrence, pooling these three cycles of the survey increased the available sample of teen parents for our analysis. The GSS is a cross-sectional survey conducted by Statistics Canada annually since 1985 with a specific thematic focus each year. The 2006, 2011, and 2017 cycles all focus on families. The GSS uses a stratified sample and is representative of non-institutionalized people aged 15 and older living in the 10 Canadian provinces. The 2006, 2011, and 2017 GSS include detailed retrospective fertility histories which allow for the identification of whether a respondent had a child during their teenage years, as well as information on educational attainment, income, health, and life satisfaction, making these data ideal for this study.

We restricted our sample to parents who were between the ages of 30 and 49 at the time of the survey. These respondents were born between 1957 and 1987 and if they became parents as teens, their children were born between 1972 and 2006. The analysis is focused on respondents who were at least 30 years old at the time of the survey because we are interested in the longer-term effect of teen parenthood on the lives of parents, rather than the short-term effects that may reflect more acute disruptions in schooling and work while caring for a young child. Respondents older than 49 were excluded in order to focus on teen births among a more recent cohort. We also excluded respondents who have never had children in order to compare the outcomes of parents who had a child “off-time,” during their teen years to parents who had their children “on-time,” in their 20s or beyond. To test the robustness of the results, we re-estimated all of the models comparing teen parents to all other Canadians and our conclusions were consistent. These sample restrictions resulted

in a sample of 12,858 respondents, 8.5% of whom became parents as teens (total $n = 1,092$; $n = 843$ teenage mothers; $n = 249$ teenage fathers).

3.2 Measures

3.2.1 Outcome Variables

This study examines the consequences of teen parenthood in terms of educational attainment, income, life satisfaction, and self-rated health between the ages of 30 and 49. Educational attainment is measured using two dichotomous variables. The first education measure represents whether the respondent had graduated high school or not, and the second whether the respondent had gone on to any postsecondary education. Annual income is adjusted for inflation and is measured in 2017 dollars. Respondents surveyed in 2006 and 2011 were asked to self-report their income, but in 2017 respondent income was obtained from linked tax files. Self-rated health is measured using a five-point Likert scale including excellent, very good, good, fair, and poor and is coded such that higher values indicate better health. Respondents were also asked to report the level of life satisfaction on a scale from zero to ten with higher values indicating more satisfaction.

3.2.2 Control Variables

The analyses include controls including age, marital status, the presence of children in the household, and working status at the time of the survey. Age is measured in whole years and by sample design ranges from 30 to 49. The current marital status measure is made up of three categories; married or cohabiting, single (never married), and previously married, which includes those who are widowed, divorced, or legally separated. Whether the respondent has a child of any age living in their household is measured dichotomously. Respondents are classified as either working for pay, or not, which includes students, people who are unemployed but looking for work, and people not in the formal labour force. Finally, the analyses control for survey year as data are pooled from the 2006, 2011 and 2017 General Social Surveys.

3.2.3 Selection into Teen Parenthood

Those who become teen parents differ systematically from those who do not have children in their teens in terms of characteristics that are related to their longer term human capital, income, health and well-being. For instance, youth from disadvantaged families are more likely to become teen parents, and also tend to have lower incomes in adulthood. Stated in counterfactual or quasi-experimental terms, teen parenthood is a non-randomly assigned treatment. This makes estimating the long-term effects of teen parenthood challenging because simply comparing the educational, income, and health and well-being of teen parents with those of non-teen parents will result in biased estimates of the effect of teen parenthood.

There are several approaches that could be used to more accurately identify the causal effect of teen parenthood on long-term outcomes, controlling for selection into teen parenthood. The traditional approach is to include covariates that are related to both teen parenthood and the outcome in a regression model. However, this requires that the functional form of the relationship between the covariates and the outcomes be correctly specified, which is challenging without a strong theoretical understanding of the mechanisms at work. A much more sophisticated approach involves the application of inverse-probability of treatment weights (IPTW), which applies the logic of experimental research design to observational data (Austin & Stuart, 2015; Edelmann & Vaisey, 2021). This approach does not require that the functional form of the relationships between factors influencing the treatment of teen parenthood and the consequences of teen parenthood be properly specified. Instead, the IPTW approach works by weighting the data so that teen parents and non-teen parents have the same univariate distributions on all of the factors that predict teen parenthood. This approach removes the bias from the estimates of the effect of teen parenthood on long-term outcomes that is due to background differences between teen parents and non-teen parents.

3.2.4 Inverse Probability of Treatment Weighting

To create the inverse probability of treatment weights, we estimate a “treatment model” using logistic regression that predicts the likelihood of becoming a teen parent. As covariates, this treatment model includes background measures available in the 2006, 2011, and 2017 General Social Surveys including measures for sex, whether the respondent lived with both parents until age 15, whether their parents lived common-law after the birth of the respondent, the respondent’s mother’s and father’s education and immigrant status, the respondent’s first language, visible minority status, level of religiosity, province, whether they live in an urban or rural area, and the age the respondent left their parental home.¹

The predicted probabilities of teen parenthood from this logistic model are used to construct inverse propensity weights of experiencing teen parenthood, given their values on the covariates included in the treatment model. Equation 1 shows how the propensity weights are defined.

$$w_i = \frac{z_i}{e_i} + \frac{(1 - z_i)}{(1 - e_i)} \quad (1)$$

z_i is an indicator variable denoting whether subject i was a teen parent

e_i is the propensity score for the i^{th} subject

¹ Following the advice from Austin and Stuart (2015) the model predicting teen parenthood used to create the propensity scores includes sex as a predictor. However, as an extra sensitivity test, we estimated the logistic regression predicting teen parenthood without sex, reconstructed the weights, and re-estimated all of the models. The results are consistent across weight specifications and are available by request.

This weighting procedure balances the covariates used in the propensity score model such that after applying the inverse propensity weights there are no significant differences between teen parents and other parents on any of the covariates included in the treatment model. Analyses showing the balance of the covariates across teen parenthood status before and after the application of the inverse probability of treatment weights are available in the [Appendix](#).

3.3 Analytic Strategy

To examine whether teen parenthood is associated with longer-term educational outcomes, income, self-rated health or life satisfaction in Canada, we use logistic or OLS regression models that are weighted using inverse-probability of treatment weights to account for selection into teen parenthood. To determine whether the effects of teen parenthood are the same for teen mothers and fathers we add an interaction between sex and teen parenthood status to the models estimated in step 1. This interaction term tests whether the effect of teen parenthood on the outcome depends on the sex of the respondent. The two dichotomous measures of education are modelled using logistic regression and these models also control for age and survey year. Annual personal income is a continuous measure and is modeled using ordinary least squares regression with age and survey year as a controls. The income models exclude respondents with no income. Since life satisfaction is measured on an 10-point scale, we treat it as a continuous variable and use ordinary least squares regression with controls for age, marital status, the presence of children in the household, whether the respondent works for pay, and survey year. The final outcome, self-rated health, which is measured on a five-point scale, is modeled using both ordinary least squares regression and ordered logistic regression. The results of these two modeling strategies are remarkably similar so only the ordinary least squares models are presented here for simplicity. The self-rated health models control for age, marital status, the presence of children in the household, whether the respondent works for pay, and survey year.

4 Results

4.1 Descriptive Analysis

Table 1 displays the characteristics of the analytic sample of 7,319 mothers and 5,539 fathers. More women than men became parents in their teens; 11.5% of the women in the sample were teen mothers ($n = 843$), and 4.5% of the men in the sample were teen fathers ($n = 249$). This gender imbalance among teen parents is partly due to the tendency for children born to teen mothers to be fathered by men older than nineteen. Estimates from the US and Britain suggest that the fathers of children born to teenage mothers tend to be 2 to 3 years older than the teen mother (Bunting & McAuley, 2004; Coley & Chase-Lansdale, 1998). It is also possible that men are

Table 1 Sample characteristics, parents aged 30 to 49 ($n = 12,858$)

	Teen Parents		Other Parents	
	Women	Men	Women	Men
	Proportion or Mean (s.d)			
Completed High School	0.79	0.73	0.95	0.92
Any Postsecondary	0.53	0.39	0.77	0.71
Personal Income ^a	\$32,986 (29,921)	\$60,188 (50,023)	\$43,438 (36,854)	\$78,156 (72,493)
Life Satisfaction ^b	7.65 (1.96)	7.73 (1.64)	8.05 (1.56)	8.03 (1.54)
Self-Rated Health ^c	3.37 (1.11)	3.42 (1.01)	3.76 (0.98)	3.79 (0.94)
Married/Cohabiting	0.59	0.71	0.78	0.85
Previously Married	0.22	0.15	0.14	0.09
Single	0.19	0.14	0.08	0.05
Children in household	0.70	0.57	0.91	0.85
Working	0.67	0.89	0.72	0.94
Age at time of survey	40.35 (6.04)	39.71 (5.76)	39.79 (5.57)	40.27 (5.41)
2006 GSS	0.51	0.64	0.39	0.40
2011 GSS	0.28	0.21	0.30	0.30
2017 GSS	0.20	0.15	0.31	0.30
n	843	249	6476	5290

Source: Pooled data from the 2006, 2011, and 2017 General Social Surveys

^aAdjusted to 2017 dollars

^bLife satisfaction measured using a 10-point scale, higher scores indicating higher satisfaction

^cSelf-rated health measured using a 5-point scale, higher scores indicating better health

more likely to under-report their children than women. The implications of this limitation are explored in the discussion.

Table 1 shows that in general, men are less likely than women to complete high school, and that teenparents of either gender, are less likely to complete high school than other parents. Among teen parents, 73% of men and 79% of women had completed high school, compared to 92% of men and 95% of women who had children later. This same pattern is also evident at the postsecondary education level; 71% of non-teenparent fathers and 77% of non-teenparent mothers attended any kind of postsecondary education, compared to only 39% of teen fathers and 53% of teen mothers. Teen mothers report the lowest average annual personal income of approximately \$30,986 compared to teen father's average income of approximately \$60,188. Among non-teen parents, women report an average income of \$43,438 and men report an average income of \$78,156. Women and men report similar levels of life satisfaction within each parenthood type, but teen parents report lower levels of life satisfaction. Teen mothers and fathers score an average of 7.65 and 7.73 respectively

on an 10-point scale on which higher scores indicate higher life satisfaction. Non-teen mothers and fathers report an average life satisfaction of 8.05 and 8.03 respectively. This same pattern is evident for self-rated health, which is measured on a scale ranging from one to five, with five indicating excellent health. Teen mothers report an average score of 3.37, teen fathers report an average score of 3.42, while the non-teen mothers and fathers report average scores of 3.76 and 3.79 respectively.

The remainder of Table 1 shows the descriptive statistics for the control variables by teen parenthood status and sex. Among teen mothers, 59% are currently married or cohabiting, 22% are previously married, and 19% are single. Among teen fathers, 71% are currently married or cohabiting, 15% are previously married, and 14% are single. 78% of non-teen mothers were currently married or cohabiting at the time of the survey, 14% were previously married, and 8% were single. Among non-teen fathers, 85% were married or cohabiting, 9% were previously married, and 5% remained single at the time of the survey. Seventy percent of women who became mothers in their teens report having children living in their household, compared to 57% of their male counterparts. Among those who became parents at older ages, 91% of women and 85% of men had residential children at the time of the survey. Eighty-nine percent and 67% of teen fathers and mothers worked for pay, respectively, compared to 94% and 72% of non-teen fathers and mothers. Table 1 displays the respondents' average age at the time of the survey, by teenparent status and sex. The average age of in all groups is approximately 40 years old. Finally, Table 1 shows the distribution of the sample across survey year.

4.2 Educational Consequences of Teen Parenthood

Table 2 displays odds ratios from logistic regression models with inverse probability weights predicting high school graduation and postsecondary education. Model 1a shows that the odds of completing a high school education are 72% lower for teen parents than other parents. Moreover, controlling for teen parenthood status, the odds of graduating high school are 51% higher for women than men. Model 1b, which adds an interaction between sex and teen parenthood status, shows that the effect of teen parenthood on high school graduation does not differ between men and women. Overall, teen parents have worse educational attainment than people who did not become parents in their teen years, but the effect is similar across genders. Model 2a and 2b examine postsecondary education and show a similar pattern. Overall, the odds that teen parents go on to postsecondary education are approximately 60% lower than non-teen parents (Model 2a), and the odds for women are 66% higher than for men. However, the effect of teen parenthood on the odds of pursuing postsecondary education is the same for teen mothers and teen fathers, as evidenced by the non-significant interaction term in Model 2b. Overall, teen parents have worse educational attainment at ages 30 to 49 than people who did not become parents but this is true for teen mothers and teen fathers alike.

Some teen parents will have graduated high school before becoming teen parents, given that students who progress through the public education system as expected are typically 17 or 18 at the time of graduation. As a sensitivity test, we re-estimated

Table 2 Odds ratios from inverse-probability of treatment weighted logistic regression models predicting high school graduation and postsecondary education, parents aged 30–49 ($n = 12,858$)

	Model 1a High School Graduation	Model 1b	Model 2a Any Postsecondary	Model 2b
Teen Parent	0.28 ***	0.31 ***	0.40 ***	0.34 ***
Not teen parent (ref.)				
Female	1.51 *	1.81 ***	1.66 ***	1.38 ***
Male (ref.)				
Teen Parent * Female		0.79		1.35
Age	0.98	0.98	0.97 **	0.97 **
Survey Year (2006)				
2011	0.75	0.76	0.94	0.93
2017	1.07	1.08	1.11	1.10
Constant	35.06 ***	31.87 ***	6.51 ***	7.33 ***
Log pseudolikelihood	-8522.61	-8519.41	-14,820.14	-14,806.73
Pseudo R^2	0.06	0.06	0.05	0.05
BIC	17,102	17,105	29,697	29,680

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2006, 2011, and 2017 General Social Surveys

the model predicting high school graduation with a measure of *young* teen parenthood, indicating whether the respondent became a parent before age 17. The results of this model are similar; teen parents have a lower odds of completing high school, but the effect is similar for teen mothers as teen fathers (results available by request).

4.3 Income Consequences of Teen Parenthood

Table 3 displays OLS regression coefficients from inverse-probability of treatment weighted models predicting annual personal income. These models exclude respondents who reported no income. Model 3a shows that teen parents earn \$9,676 less than parents who had their child at an older age, and women earn \$32,403 less than men, controlling for the other variables in model. Model 3b adds an interaction between gender and teen parenthood status and shows that overall, between the ages of 30 and 49, women earn less than men, but this is equally true for teen parents and non-teen parents. The non-significant interaction term indicates that the detrimental association of teen parenthood with later annual personal income is the same for teen mothers and teen fathers.

4.4 Health and Well-being Consequences of Teen Parenthood

Models 4a and 4b and 5a and 5b in Table 4 show the relationship between teen parenthood and life satisfaction and self-rated health respectively, after applying inverse probability of treatment weights. These models control for gender, age,

Table 3 Estimates from inverse-probability of treatment weighted OLS regression models predicting income, parents aged 30–49, excluding respondents with no income ($n = 12,423$)

	Model 3a Income	Model 3b
Teen Parent	-9675.94 **	-9,562.81
Not teen parent (ref.)		
Female	-32,403.60 ***	-32,289.20 ***
Male (ref.)		
Teen Parent * Female		-211.82
Age	363.71	364.12
Survey Year (2006)		
2011	-2876.32	3650.03
2017	-3484.57	3219.27
Constant	66,263.52 ***	12,072.74 ***
Root MSE	54,058	54,060
R^2	0.09	0.09
BIC	306,072	306,082

Excludes respondents with no income

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2006, 2011, and 2017 General Social Surveys

current marital status, the presence of children in the household, whether the respondents works for pay, which may also influence life satisfaction and self-rated health, and survey year. The OLS estimates in Model 4a demonstrate that Canadians who became parents as teens report similar levels of life satisfaction than non-teen parents. Model 5a, predicting self-rated health, displays a significant disadvantage among teen parents overall; teen parents report their self-rated health to be approximately one-fifth of a point lower on a 5-point scale than non-teen parents.² Models 4b and 5b test whether the effect of teen parenthood is consistent for teen mothers and fathers and shows that, like the other outcomes, the negative consequences of teen parenthood in terms of self-rated health and life satisfaction are not statistically distinguishable between teen mothers and teen fathers.

5 Discussion

From a life course perspective, which focuses on how the timing of life transitions can influence various social and economic trajectories later in life, teen parenthood is an off-time event likely to be associated with a variety of disadvantages. The results of this study overall demonstrate that teen parenthood is detrimental for human capital attainment, income, and health, even 10 to 35 years after becoming a teen parent, and that the consequences of teen parenthood are

² Self-rated health was also modeled using ordered logistic regression and the results and conclusions remain the same. Only the OLS estimates are displayed for simplicity.

Table 4 Estimates from inverse-probability of treatment weighted OLS regression models predicting life satisfaction and self-rated health, parents aged 30–49 ($n = 12,858$)

	Model 4a	Model 4b	Model 5a	Model 5b
	Life Satisfaction		Self-Rated Health	
Teen Parent	-0.11	-0.03	-0.22 ***	-0.20 **
Not teen parent (ref.)				
Female	0.11	0.18 ***	0.06	0.08 ***
Male (ref.)				
Teen Parent * Female		-0.14		-0.04
Age	-0.02 **	-0.02 **	-0.02 ***	-0.02 ***
Previously married	-0.96 ***	-0.96 ***	-0.09	-0.11
Single	-0.99 ***	-0.98 ***	-0.21 **	-0.27 ***
Married/Cohabit (ref.)				
Children in household	-0.14	-0.13	0.06	0.07
No children in household (ref.)	0.45 ***	0.45 ***	0.46 ***	0.46 ***
Working for pay				
Not working for pay (ref.)				
Survey Year (2006)				
2011	0.21 **	0.21 **	-0.04	-0.04
2017	0.29 **	0.29 **	0.10	0.10
Constant	8.63 ***	8.57 ***	4.12 ***	4.10 ***
Root MSE	1.58	1.58	0.98	0.98
R^2	0.09	0.09	0.07	0.07
BIC	48,360	48,363	36,013	36,021

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2006, 2011, and 2017 General Social Surveys

similar for men and women. These results suggest that disruptions often associated with teen parenthood, such as interrupted schooling and lower occupational attainment, are perpetuated well into adulthood for men and women alike.

Looking at the long-term consequences of teen parenthood from a gender lens invites an expectation that the off-time transition carries different consequences for mothers and fathers, with cultural and structural factors working together to exacerbate the gender inequalities women already experience when they become mothers. Yet, our results suggesting that teen parenthood disadvantages both women and men align with other recent studies examining longer term outcomes of teen parenthood (Mollborn, 2010; Taylor, 2009). Some prior research on the effects of teen parenthood for fathers found that men faced fewer and less severe consequences of their parenthood status compared to women (Card & Wise, 1978; Winquist Nord et al., 1992). These studies, however, have been focused on more short-term consequences of teen parenthood, and often fail to take selection into teen fatherhood into account (Winquist Nord et al., 1992).

Moreover, there is good reason to expect the short-term consequences of teen parenthood to be more disadvantageous for teen mothers than teen fathers, although the long-term consequences are similar. For one, women may be more disadvantaged directly following the birth of a child because mothers' human capital acquisition trajectories, and perceptions of their health and life satisfaction are often directly affected by birth and infant care. Teen mothers are more likely to take on a custodial parent role than teen fathers and this is a major source of gender inequality in the period shortly following the birth of a child. These acute effects have been found to dissipate over time, especially when teen mothers have access to social supports (Chevalier & Viitanen, 2003; Furstenberg et al., 1987; Zeck et al., 2007). Teen fathers, on the other hand, are more likely to enter the workforce early in an effort to support their child (Hollman & Alderman, 2008), which may result in early income advantages compared to men who begin their careers on-time. This early income advantage may dampen the detrimental effects of teen fatherhood measured in the short-term, but off-time transitions in employment trajectories can hinder higher educational attainment with long-term earnings consequences. At the same time, teen fathers' imperative to work—in cases where they are involved breadwinners for their child and family—may also contribute to their lesser involvement in one-on-one childcare and any resentment or strain this may provoke in the family unit (Nylund, 2006).

One of the major strengths of this study is the use of inverse probability of treatment weighting to account for pre-existing differences between respondents who became teen parents and respondents who became parents at older ages. Thus, the results of this study provide evidence for the unique detrimental effect of teen parenthood. This study, however, is not without limitations, the most challenging of which is the potential under-reporting of children among men in the 2006, 2011, and 2017 General Social Surveys. The sample includes 843 women and 249 men who report having a child in their teens. Some of this difference in the number of women and men reporting teen births is due to the fact that women are more likely to be teen parents than men, as the fathers of children born to teen mothers are typically 2 to 3 years older than the mother (Bunting & McAuley, 2004; Coley & Chase-Lansdale, 1998). This means that many teen mothers have children whose fathers are not teens themselves. It is unlikely, however, that this age heterogeneity can explain all of the gender difference in the reporting of teen parenthood and we suspect that many men who did father a child in their teens did not report that child in the survey. Unfortunately, accurate estimates of the extent of this under-reporting are not available.

There are at least three possible reasons for this under-reporting. First, it is possible that some men are not aware that they fathered a child. Second, some men may not report children born in their teens because they did not take on the social or financial responsibility of fatherhood and do not 'count' these children when reporting their fertility histories. These two possibilities do not threaten our conclusions because we are interested in the long term consequences of taking on the social role of parent "off-time." The life course framework provides little reason to hypothesize that simply impregnating a woman, but not acting as a father, would have lasting consequences.

A third possibility for why men may underreport the children they fathered in their teens is that they were involved parents at the beginning of their child's life, then lost contact as the child aged. These men might be underreporting the children they fathered and helped care for in their teens, suggesting that some men who were teen fathers are classified as non-teen fathers in this study. This has the potential to negatively bias the outcomes of the non-teen father group by lowering the average human capital and health and wellbeing measures. This misclassification would decrease the differences between the teen father and non-teen father group, making the present estimates of the consequences of teen parenthood for men conservative. However, this group of teen fathers misclassified as non-teen fathers is likely small and would not have the statistical power to bias the estimates for the very large non-teen father group. Unfortunately, the General Social Surveys do not allow for the identification of those who did or did not take on parental responsibility, and similarly, it is not possible to identify respondents who put up their children for adoption. Importantly, the underreporting of children by men also reflects the reality that men are less likely to take responsibility for the children they father as teens, which is a source of gender inequality that is difficult to examine because it is easier methodologically to identify conception and fertility among women than men.

A further limitation, which cannot be addressed with the survey data analyzed here, is that the present study cannot fully flesh out teen mothers and fathers' lived experiences in the face of the adverse effects found here. Doing so would enable greater nuance vis-à-vis the influence of gender and progression of adverse effects across the life course, but would require analysis of open-ended survey or interview questions.

6 Implications

Taking a life course perspective, while being attentive to gender differences, provides several interesting avenues for future research. For one, research in this area should examine different points in the life course to better understand the income, education, health, and wellbeing trajectories of teen mothers and fathers at different ages. Second, it would be useful to interrogate differences in the timing of teen parenthood, that is, if parenthood in the early teen years is associated with even greater consequences than transitioning to parenthood in the later teen years, as transitions

that are more ‘off-time’ may be more detrimental. Finally, the life course perspective highlights the contexts in which lives are lived (Elder, 1994). Understanding how the consequences of teen motherhood and fatherhood have changed over time and for different cohorts would be illuminating, particularly in light of Diaz and Fiel’s (2016) findings that some of the effects of teen motherhood are heterogeneous. It is possible that as teen parenthood has become increasingly rare (Statistics Canada, 2019a), and the average age at first birth has increased in Canada (Statistics Canada, 2016), the negative consequences of such an off-time transition to parenthood have become more pronounced. Unfortunately, the present study could not explore these potential cohort differences due to the limits imposed by the size of the sample.

Overall, the results of this study suggest that research on teen parenthood should be expanded to include a more explicit focus on teen fatherhood and the effects of teen parenthood for men. A variety of policy initiatives aimed at ameliorating the consequences of teen parenthood for young women have been developed in the last three decades in Canada, including low or no cost daycares in high schools, and support groups to encourage teen mothers to continue their education (Toronto City Mission, 2018). Although some of these programs may also serve teen fathers, they are not the target of these policies and our analysis shows teen fathers are also disadvantaged in terms of their educational attainment, income, and personal well-being. Such a finding may be an indictment of the existing policies aimed primarily at supporting teen mothers: mothers are no better off than the fathers despite the support available to them. Thus, better policy approaches are warranted based on results from this study, which necessarily include the teen fathers who may be more likely to take financial responsibility for children they father than in previous cohorts. This may lead them to curtail their education and seek low-skilled and insecure jobs, which inevitably has long term consequences for their later earning potential. Policies to encourage teen fathers to also remain in school and invest in their human capital acquisition may be fruitful if combined with robust state support for children born to teenage parents.

7 Appendix

Tables 5 and 6

Table 5 Results from a logistic regression model predicting teen parenthood, parents aged 30–49 ($n = 12,858$)

	b	s.e	
Mother Tongue (English)			
French	-0.34	0.15	*
Non-official	-0.46	0.16	**
English and French	0.28	0.25	
One Official and non-official	-0.16	0.30	
Eng, French and non-official	0.87	0.65	
Multiple non-official	-1.57	1.02	
Importance of religion (Very Important)			
Somewhat important	-0.01	0.08	
Not very important	-0.06	0.10	
Not at all important	-0.08	0.11	
Missing	-0.06	0.41	
Visible minority			
Not visible minority	0.20	0.17	
Missing	-0.31	1.05	
Born in Canada			
Immigrant	0.26	0.17	
Mother born in Canada			
Mother immigrant	-0.25	0.16	
Missing	-0.41	0.65	
Father born in Canada			
Father immigrant	-0.17	0.14	
Missing	-0.15	0.24	
Father's Education (< High School)			
High School or equivalent	-0.34	0.09	***
Trade certificate or diploma	-0.62	0.16	***
College or CEGEP	-0.50	0.16	**
University less than Bachelor	-0.91	0.35	*
Bachelor degree	-0.62	0.16	***
Above Bachelor	-0.72	0.22	***
Missing	0.19	0.11	
Mother's Education (< High School)			
High School or equivalent	-0.22	0.09	*
Trade certificate or diploma	-0.35	0.20	
College or CEGEP	-0.50	0.13	***
University less than Bachelor	-0.02	0.26	
Bachelor degree	-0.59	0.16	***
Above Bachelor	-0.42	0.29	
Missing	0.09	0.12	
Lived with 2 parents until age 15			
Did not live with 2 parents until age 15	0.50	0.08	***
Parents never lived common-law			
Parents ever lived common-law	-0.27	0.10	**

Table 5 (continued)

	b	s.e	
Missing	0.04	0.17	
Urban/Rural Residence (CMA)			
Non-CMA	0.43	0.08	***
Age at homeleaving	-0.01	0.00	***
Sex (Men)			
Women	1.01	0.08	***
Province (Newfoundland and Labrador)			
PEI	-0.22	0.20	
Nova Scotia	-0.15	0.18	
New Brunswick	0.00	0.17	
Quebec	-0.31	0.19	
Ontario	-0.15	0.14	
Manitoba	0.03	0.17	
Saskatchewan	0.22	0.17	
Alberta	-0.23	0.16	
BC	-0.08	0.16	
Constant	-2.34	0.25	***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2006, 2011, and 2017 General Social Surveys

Table 6 Bivariate statistics for each covariate included in the treatment model, by teen parenthood status, before and after the application of inverse-probability of treatment weights ($n = 12,858$)

	Before IPTW		After IPTW		n.s
	Not Teen Parent	Teen Parent	Not Teen Parent	Teen Parent	
	Proportion/Mean (sd)		Proportion/Mean (sd)		
Mother Tongue (English)	suppressed	suppressed	suppressed	suppressed	n.s
French			***		
Non-official					
English and French					
One Official and non-official					
Eng, French and non-official					
Multiple non-official					
Importance of religion (Very Important)	suppressed	suppressed	n.s	suppressed	n.s
Somewhat important					
Not very important					
Not at all important					
Missing					
Visible minority	suppressed	suppressed	***	suppressed	n.s
Not visible minority					
Missing					
Born in Canada	71.75	7.54	***	0.35	0.42
Immigrant	19.75	0.96	***	0.10	0.13
Mother born in Canada			***	suppressed	n.s
Mother immigrant					
Missing					
Father born in Canada	61.74	6.75	***	0.30	0.36
					n.s

Table 6 (continued)

	Before IPTW		After IPTW	
	Not Teen Parent	Teen Parent	Not Teen Parent	Teen Parent
	Proportion/Mean (sd)		Proportion/Mean (sd)	
Father immigrant	28.54	1.52	0.15	0.18
Missing	1.22	0.23	0.01	0.01
Father's Education (<High School)		***	suppressed	n.s
High School or equivalent		suppressed		
Trade certificate or diploma				
College or CEGEP				
University less than Bachelor				
Bachelor degree				
Above Bachelor				
Missing				
Mother's Education (<High School)	25.7	3.16	0.12	0.15
High School or equivalent	30.61	2.59	0.15	0.19
Trade certificate or diploma	3.38	0.26	0.02	0.02
College or CEGEP	11.36	0.74	0.06	0.07
University less than Bachelor	1.56	0.15	0.01	0.01
Bachelor degree	9.11	0.41	0.05	0.05
Above Bachelor	2.66	0.12	0.01	0.02
Missing	7.12	1.07	0.03	0.04
Lived with 2 parents until age 15	74.95	5.83	0.38	0.44
Did not live with 2 parents until age 15	16.56	2.67	0.08	0.10
Parents never lived common-law	9.43	1.16	0.05	0.05
Parents ever lived common-law	78.74	6.86	0.39	0.48

Table 6 (continued)

	Before IPTW		After IPTW	
	Not Teen Parent	Teen Parent	Not Teen Parent	Teen Parent
	Proportion/Mean (sd)		Proportion/Mean (sd)	
Missing	3.33	0.47	0.02	0.02
Urban/Rural Residence (CMA)	70.42	5.37	0.36	0.41
Non-CMA	21.08	3.13	0.10	0.13
Age at homeleaving	23.33 (0.13)	21.09 (0.49)	23.50 (0.14)	24.32 (1.30)
Sex (Men)	41.14	1.94	0.24	0.46
Women	50.37	6.56	0.24	0.30
Province (Newfoundland and Labrador)	5.01	0.68	0.02	0.03
PEI	2.64	0.38	0.01	0.02
Nova Scotia	5.07	0.54	0.03	0.03
New Brunswick	4.92	0.64	0.02	0.03
Quebec	16.84	1.15	0.09	0.10
Ontario	27.68	2.15	0.14	0.17
Manitoba	5.11	0.61	0.02	0.03
Saskatchewan	4.74	0.67	0.02	0.03
Alberta	9.82	0.86	0.05	0.05
BC	9.67	0.82	0.05	0.06

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2006, 2011, and 2017 General Social Surveys

Notes: estimates are suppressed when there are less than 15 observations in any cell of the bivariate table to comply with Statistics Canada regulations

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