



## Earnings trajectories of individuals in same-sex and different-sex couples: Evidence from administrative data

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### ABSTRACT

We unite two interrelated bodies of work – a growing literature on sexual orientation earnings gaps and a rich tradition of research on intragenerational career trajectories – to examine how labor markets and life courses interact to produce gender and sexual orientation inequalities over time. We use the 1982–2019 Canadian Longitudinal Administrative Databank, a unique longitudinal database constructed from tax records, to answer core questions about the mechanisms that underlie sexual orientation earnings inequality. Growth curve models reveal how sexual orientation earnings gaps evolve over time spent in the workforce, and how they relate to differences in demographic and work characteristics for those in same- and different-sex couples at various points in the life course. We find that sexual orientation earnings gaps converge and diverge at unique career stages for men and women, and at each stage relate to unique mechanisms, especially work characteristics and family status. We find little significant variation in average earnings trajectories by sexual orientation across cohorts who were subject to differing legal and social environments surrounding sexual orientation.

### 1. Introduction and background

Recent research demonstrates that sexual orientation interacts with gender in producing workplace experiences and shaping broader labor market outcomes. Most early studies on earnings outcomes, specifically, found that gay men and lesbian women earn less than heterosexual men, while lesbian women tend to earn more than heterosexual women (Badgett, 1995; Baumle & Compton, 2011; Carpenter, 2008; Denier & Waite, 2019; Mize, 2016; Mueller, 2014). More recent evidence has shown that in some contexts, gay men earn as much as heterosexual men (Carpenter & Eppink, 2017; Dilmaghani, 2018; Klawitter, 2015; Mueller, 2014). Moreover, increasing attention has turned to the experiences

of bisexual people, who face stark disadvantages across a range of labor market outcomes compared to heterosexual men and women, and gay men and lesbian women (Mize, 2016; Uhrig, 2015; Waite et al., 2020).

Documented patterns of sexual orientation labor market inequality emerge in the shadow of legal and social institutions that limited economic opportunities, freedom of expression, and family formation possibilities for LGBTQ+ people<sup>1</sup>. For decades, the benefits of marriage were reserved for those in different-sex couples, and social disapproval forced many LGBTQ+ workers to conceal their identities and relationships (Meinholt & Frohn, 2016; Newheiser et al., 2017). In recent years, governments worldwide have instituted protections against workplace discrimination on the grounds of sexual orientation; extended spousal

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<sup>1</sup> We use the acronym LGBTQ+ as a shorthand for lesbian, gay, bisexual, queer, and other non-heterosexual identities, and orientations. While our framing of the paper relates to sexual orientation, people often express their sexual orientation in relation to their own or others' sex/gender and surveys also have well-documented deficiencies in capturing sex/gender identities, ignoring non-binary sex/genders and fluidity in sex/gender. We also use the term sex/gender to recognize that sex and gender are often conceptualized as distinct, but in practice surveys only capture certain dimensions of sex and/or gender and often conflate the concepts (Westbrook & Saperstein, 2015). Notably, the tax records that form our data do not allow transgender and non-binary people to self-identify as such.

insurance for same-sex partners; and introduced gender neutral marriage definitions for gender and sexual minorities (Smith, 2020; Velasco, 2018). As a result, both workplaces and family forms are in flux. Given this background, research on how sexual orientation factors into work lives and labor market opportunities has focused on discrimination and the role of demographic characteristics, particularly marriage and parenthood, in creating inequality (Baert, 2014; Baumle, 2009; Bridges & Mann, 2019; Elmslie & Tebaldi, 2007; Tilcsik, 2011).

Research on sexual orientation and employment outcomes is bound by unique aspects of available data: few surveys have explicit questions about sexual orientation and most surveys have very small sample sizes of LGBTQ+ people. As a result, many researchers infer sexual orientation by studying same- and different-sex couples, and most studies rely on *cross-sectional data* with larger samples provided by censuses and health surveys (Drydakis, 2022; Klawitter, 2015; Waite & Denier, 2019). While the consequences of different measurements of sexual orientation are now more widely discussed (Aksoy et al., 2018; Waite & Denier, 2019), the use of cross-sectional data also has important implications. Without longitudinal data it is difficult to take into account individuals' work and partnership histories when examining labor market outcomes, and to know whether cross-sectional inequalities are consistent over time (Sabia et al., 2017).

A long tradition of social stratification research has centered precisely on the *intragenerational dynamics* of inequality, establishing links between job mobility, family dynamics, and career outcomes (Aisenbrey & Fasang, 2017; Fuller, 2008; Kalleberg & Mouw, 2018; le Grand and Tåhlén, 2002; Sørensen, 1975). For instance, research shows that earnings tend to increase over time according to education, occupational attainment, training, experience, seniority, and career track, among other workplace and labor market markers (Bloome & Furey, 2020; Manning & Swaffield, 2008; Riekhoff, 2022; St-Denis & Yang, 2022). If disadvantage compounds or erodes with time in the labor market, cross-sectional estimates of earnings inequality may present incomplete understandings of inequality. Moreover, there are important gender and family status differences in wage trajectories. Women not only earn less than men on average, but experience lower levels of wage growth, which in part stems from motherhood penalties and fatherhood premiums (Bertrand et al., 2020; Deng, 2021; Francesconi & Parey, 2018; Fuller, 2008). Additionally, partnership and childrearing practices vary across the gender and sexual orientation identities of couples, with those in same-sex couples sharing a more equal division of labor (Giddings et al., 2014; Goldberg et al., 2012; Jaspers & Verbakel, 2013; Jepsen & Jepsen, 2015; van der Vleuten et al., 2021). These results raise the questions of whether, and to what extent, rates of earnings growth differ by sexual orientation and how partnership dynamics – a key component of gender wage gaps – contribute to observed sexual orientation earnings inequality at different points over the life course. To answer these questions, we turn to longitudinal data with rich income and partnership histories that allow us to capture changes over individuals' life courses more dynamically (Singer & Willett, 2003).

Our analysis thus centers on three key questions: (1) Does earnings growth vary by sexual orientation (i.e. do sexual orientation earnings gaps vary over time spent in the labor market)? (2) What roles do work histories, partnerships, and childrearing play in shaping earnings growth across sexual orientation? (3) Does sexual orientation earnings inequality vary across birth cohorts subject to varying legal and social frameworks surrounding sexual orientation? To answer these questions, we draw on unique administrative data from Canada that allows us to identify individuals who have been in same- and different-sex couples. We use growth curve analyses to document how earnings evolve over time spent in the workforce, and how sexual orientation inequality relates to geographic location, work histories, and partnership and parenthood status. Beyond our substantive findings, our analysis highlights some advantages and challenges in using administrative data to study the career dynamics of those in same-sex partnerships.

### 1.1. Explanations of earnings growth differentials by sexual orientation

Previous research has identified key mechanisms that may shape earnings trajectories across gender and sexual orientation; we discuss four competing explanations that motivate our focus on trajectories.

The first explanation focuses on differences in how heterosexual and LGBTQ+ people choose or channel into distinct education pathways and types of employment, which may impact earnings potential and career stability over the life course. Much research shows that both gay and bisexual men, and lesbian women are more highly educated than their heterosexual counterparts (Denier & Waite, 2019; Mittleman, 2021; Waite et al., 2020). Such high levels of education may translate into greater potential for earnings growth, but a later career start. At the same time, LGB workers are more likely than heterosexual people to work in certain types of jobs, occupations, and industries. For instance, evidence from the U.S. finds that LGB people are more likely to sort into gender atypical occupations (Tilcsik et al., 2015; Ueno et al., 2013), which may lead to lower wages for gay and bisexual men, and higher wages for lesbian women compared to heterosexual same-gender counterparts. Evidence from Canada further finds that industry sorting explains a large part of sexual orientation wage gaps (Waite & Denier, 2015a). There is relatively less evidence on career stability. Ueno, Grace, and Šaras (2019) found that in the U.S., women in same-sex partnerships have held more jobs than women in different-sex partnerships at similar points in the life course, while there are few differences for partnered men by sexual orientation. Notably, single men with same-sex partnering experience have significantly more jobs than single men with different-sex experience due in part to higher rates of involuntary job loss (Ueno et al., 2019). Altogether, we may expect countervailing forces for gay and bisexual men: high levels of education may result in higher levels and growth in earnings, but occupational and industrial sorting may hamper earnings. For lesbian and bisexual women, high levels of education, and occupational and industrial sorting may lead to increased earnings relative to heterosexual women.

The second explanation centers on discrimination as a key determinant of wage growth (or lack thereof) and hinges on different assumptions about the effect of discrimination over time. On the one hand, over time, people's sexual orientation may be revealed or identified with increased exposure to co-workers and employers, and entry into/exit out of partnerships, which may increase the level of LGB visibility in the workplace (Sabia, 2015; Tilcsik, 2011). Discrimination, stigma, and microaggressions can directly or indirectly impact workers' performances, attachments, and productivity, as well as treatments from employers and colleagues, leading to lower wage growth (Berg & Lien, 2002; Elmslie & Tebaldi, 2007). On the other hand, it is also possible that increased intergroup contact can alleviate homophobic attitudes and biases (Bernstein & Swartwout, 2012; Pettigrew, 1998; Waite & Denier, 2015b), and thus the said negative effects of discrimination should diminish over time if people remain in stable employment relationships.

The third and fourth explanations concern gender-specific household specialization dynamics and employers' perceptions of those dynamics. LGB people are less likely to be married or have children than heterosexual people (Waite et al., 2020). Same-sex couples are also more likely to split household responsibilities in a more egalitarian fashion, while those in different-sex couples often default to women in terms of care and housework responsibilities (Giddings et al., 2014; Goldberg et al., 2012; Jaspers & Verbakel, 2013; Jepsen & Jepsen, 2015; van der Vleuten et al., 2021). As a result, employers may assume that lesbian women are less burdened with household commitments and therefore more career-committed and/or productive than their heterosexual counterparts (Antecol & Steinberger, 2013; Baert, 2014; Budig & Hodges, 2010; Waite & Denier, 2015b). Using U.S. Census data, Baumle (2009) found that lesbian women received a motherhood *advantage* of approximately 20 % compared to heterosexual women. By contrast, since gay men are on average much less likely to be parents compared to

heterosexual men, they do not fit into the dominant stereotype of an “ideal worker” – a breadwinner who has children to raise and a wife who performs care and household work (Acker, 2006; Black et al., 2003; Denier & Waite, 2019; Mize, 2016). Studies show that unlike heterosexual men, gay men do not receive marriage or parenthood premiums (Booth & Frank, 2008; Killewald & Zhuo, 2019; Zavodny, 2008), including in Canada (Waite & Denier, 2015b). Taken together, these mechanisms suggest that lesbian women might experience greater earnings growth, while gay men may experience slower growth, compared to heterosexual women and men, respectively. Further, it suggests that the emergence of these disparities will coincide with partnership and childbearing/rearing.

Three of these mechanisms explicitly rely on comparing the experiences of sexual minority men and women to heterosexual men and women. As a result, understanding how sexual orientation earnings inequality evolves over the life course is also revealing for the broader creation of gender inequality in the labor market. For instance, if gay men earn less than heterosexual men and lesbian women earn more than heterosexual women, we are underestimating wage gaps between heterosexual men and women in models that don’t account for sexual orientation. Uncovering this starker earnings inequality may elucidate how and why gender earnings gaps persist, particularly as they relate to roles, behaviors and assumptions surrounding gender, heterosexuality, and family life.

### 1.2. Empirical literature on LGB earnings over time

While sexual orientation earnings gaps are increasingly well-documented, we still have little evidence on differences in earnings trajectories by sexual orientation, largely due to the lack of longitudinal data on sexual minorities. Recently, a few notable studies have provided insights into these temporal dynamics. Using the Household, Income and Labour Dynamics in Australia Survey, Sabia et al. (2017) found that despite similar initial earnings growth between gay men and heterosexual men, gay men experienced 0.37 % points lower growth over a 10-year period, partly due to more non-working spells in their work histories. Conversely, lesbian women experienced higher wage growth, partly due to more work hours. They also found that both bisexual men and women were less likely to be employed and earned less than their heterosexual counterparts. This study reveals key labor market outcomes beyond earnings gaps, including work hours growth and spells of unemployment over a longer period. However, given the small sample sizes in the study, the growth estimates were very sensitive to the growth windows chosen (Sabia et al., 2017).

Other studies, while not directly examining earnings growth, highlight the importance of analyzing earnings patterns over a longer period of time in relation to individuals’ partnership and marriage dynamics. For example, Aldén et al. (2015) used Swedish longitudinal register data from 1994 to 2007 to examine how entry into partnership or marriage affects labor force engagement, earnings, and fertility for individuals in same-sex and different-sex couples. They found that individual income for gay men decreased after union entry, but no change was observed for lesbian women. Heterosexual men, on the other hand, experienced a steep growth in the years leading up to marriage, contrary to heterosexual women, who experienced a wage reduction after union entry. Based on the 1990 U.S. Census and the 2011 American Community Survey, Burn and Jackson (2014) compared the earnings growth of men in same-sex and different-sex relationships between 1990 and 2011. They found that earnings growth for partnered gay men relative to heterosexual married men was considerably larger in the six states where same-sex marriage was legal, compared to that in states where it was not – a finding attributed in part to workplace discrimination and employers’ preference for married men, both heterosexual and gay (Burn and Jackson, 2014). In the Canadian context, using a quasi-cohort analysis of the 2001 and 2006 Canadian censuses and the 2011 National Household Survey, Waite (2015) showed that the earnings premium of

partnered lesbian women relative to partnered heterosexual women grew as the duration in the labor market increased, due partly to a stronger influence of partner’s labor supply on one’s earnings among coupled lesbian women. This study, however, found little consistent evidence that the penalty for gay men diminished as duration in the labor market increased.

More recently, novel administrative data have facilitated further analyses of how life course events, like getting married or having a child, may impact labor market outcomes differently for same-sex and different-sex couples (Andresen & Nix, 2022; Downs et al., 2023; Machado & Jaspers, 2023; van der Vleuten et al., 2023). For instance, using data from four Scandinavian countries, van der Vleuten et al. (2023) found that household earnings trajectories of same-sex and different-sex households were similar leading up to and following parenthood, but within couple earnings gaps were larger surrounding parenthood for different-sex couples than same-sex couples. This latter finding mirrors evidence from the Netherlands, which shows that the child penalty was stronger for mothers who partnered with men compared to those partnering with women (Machado & Jaspers, 2023). These studies are extremely valuable in elucidating how life course events result in divergent labor market experiences across gender and sexual orientation but often focus on the subset of people who experience those events or are limited to same-sex couples of one gender.

In sum, while most research thus far has relied primarily on cross-sectional data because of persistent data deficits, a small but growing literature has highlighted the importance of studying *earnings trajectories*, which can provide deeper insights into the mechanisms associated with observed cross-sectional earnings inequality. Where longitudinal analysis has been possible, much research has explored the mechanisms underpinning convergence or divergence in earnings in isolation (e.g. the wage and earnings impacts of entry into partnerships or parenthood). In this paper, we zoom out and bring together insights from prior studies to explore how sexual orientation earnings differences emerge or attenuate at different points in people’s careers, which may relate to people’s life course events within and outside the workplace.

### 1.3. Cohort change

Over the past 30 years, there has been a sea change in the legal and social treatment of LGBTQ+ people in many societies, including in Canada, the site of our study. For most of the 20th century, sodomy was criminalized, same-sex attraction and contact was considered ‘gross indecency’ and criminalized, and marriage and its benefits were limited to those in different-sex unions (Kinsman & Patrizia, 2010; Smith, 2020). In Canada, the federal government actively expelled non-heterosexual people from the federal public service following World War II and through the late 1980s (Kinsman & Patrizia, 2010; Smith, 2020). Widespread social opprobrium compelled many LGBTQ+ people to conceal their identities and relationships. In the 1990s, decades of organizing worked to undo some of these legal and institutional inequalities. In 1999, rights and benefits associated with cohabiting partners were extended to same-sex couples. In 2005, same-sex marriage was federally legalized. And in 2017 the federal government formally apologized for its monitoring and expulsion of LGBTQ employees (Remarks by Prime Minister, 2017).

As a result of these changes, different birth cohorts may have profoundly different life course experiences in terms of occupational choice, treatment in the workplace, and family formation. Given focus on legal changes expanding partnership and centering on non-discrimination, we may expect that more recent cohorts are faring better in the labor market. Recent research in the UK, for example, showed that partnering has become more common for recent cohorts of LGB people (Ophir et al., 2023). This may facilitate earnings growth if LGB people benefit from partnership premiums. Moreover, recent estimates of earnings gaps suggest that gay men, in particular, may face smaller earnings disadvantage than estimates reported in the 1990s (Carpenter & Eppink,

2017).

At the same time, other research suggests uneven progress, since recent cohorts may experience backlash, or change in the underlying characteristics of the LGBTQ+ population as more people identify as LGBTQ+ (Liu & Reczek, 2021). Across cohorts, people may feel more comfortable identifying their sexual orientation publicly, yet still face backlash, potentially heightening discrimination, especially in workplaces. Liu and Reczek (2021), for instance, found that recent cohorts of LGB people actually had worse relative health outcomes than older cohorts. Cohort change may also differ for gay men, lesbian women, and bisexual men and women (Liu & Reczek, 2021). Gay and bisexual men were subjected to the harshest criminalization of same-sex acts and attraction in Canada, and subsequently faced intense exposure to illness and death through the AIDS epidemic (Hammack et al., 2018). Bisexual men and women continue to face social disapproval at higher levels than gay men and lesbian women (Mize, 2016), and bisexual women are the largest growing segment of the LGBTQ+ population (England et al., 2016). Altogether, we might see divergent patterns of sexual orientation earnings inequality across cohorts that varies for different groups of LGB people.

## 2. Data and methods

### 2.1. Data and sample

To explore how annual earnings trajectories vary by sexual orientation and across cohorts, we use data from the Longitudinal Administrative Databank (LAD), a large administrative data source that includes 20 % of all Canadian tax filers since 1982 (Statistics Canada, 2021b). In 1982, 20 % of all Canadian tax filers were randomly selected into the dataset and followed longitudinally afterwards, appearing in the data on every subsequent year when they filed their taxes. Each year after 1982, 20 % of all first-time tax filers are selected into the sample in the same way (Statistics Canada, 2021b). The current study covers tax years between 1982 and 2019.<sup>2</sup>

The LAD suits our study aims for several reasons. First, compared to self-reported income in survey data, tax records provide much more detailed and accurate data of individuals' incomes from various sources over time. Second, the LAD includes family members' income and information on marital status. In this case, we have spousal information in years when the individual is married or in a common-law<sup>3</sup> union, which is crucial to the analysis of union formation and couple dynamics. Third, the LAD contains an incredibly large sample of millions of tax filers over almost 40 years, with little attrition or missingness outside of cases of death and emigration. This longer time frame allows us to observe individuals' income and partnerships over their life course across multiple cohorts.

Critical to this study, the LAD also reflects legal changes related to same-sex partnering. After 2000, when rights and benefits associated with common-law unions were extended to same-sex couples, the LAD began to identify same-sex common-law unions. In 2005, same-sex marriage became legal nationwide, which was also reflected in LAD data. As a result, beginning in 2000, the LAD provides information on whether a tax filer is in a same-sex couple or not on a yearly basis. Altogether, we can identify individuals who form same-sex and different-sex unions over time between 2000 and 2019. With this

longitudinal data from a large number of tax filers and their family members, we can trace income and conjugal trajectories over the life course, distinguishing the data from surveys with relatively small sample sizes of LGBTQ+ people and possibly large attrition rates.

From the full data, we trace individuals' annual earnings from age 25 to 50 between 2000 and 2019 for individuals born between 1959 and 1986 (age 14–41 in 2000 and 33–60 in 2019). We draw a sample of individuals who meet all the following criteria: 1) did not migrate to Canada after age 25 (if they were immigrants); 2) whose number of disappeared years did not exceed one third of the expected number of years in the LAD. To elaborate, on rare occasions, individuals might not appear in every tax year consecutively<sup>4</sup> or may stop appearing in the data after a certain point for reasons unaccounted for (e.g. unregistered emigration or death). We thus select individuals whose number of disappeared years was less than one third of the expected years they were in the LAD between age 25–50. For example, a person of cohort 1965 should have 16 expected observations in the LAD between 2000 and 2019 (when they were 35 in 2000 and 50 in 2015). The number of disappeared years should be less than  $16 \times \frac{1}{3}$ , that is 5.33 years. Likewise, for a person from cohort 1983, the threshold is 4 years. The case would be dropped if the number of disappeared years exceeds this threshold. Finally, 3) we keep only observations with annual earnings exceeding \$1000. Appendix Table A.1 shows the analytical sample by age and cohort between 2000 and 2019.

### 2.2. Measures

#### 2.2.1. Earnings

Our dependent variable is annual individual employment income. This includes wages and salaries, commissions from employment, training allowances, tips and gratuities and self-employment income. It is log-transformed to minimize the influence of outliers, excluding observations reporting annual income less than \$1000. All values are adjusted to 2019 constant Canadian dollars based on Consumer Price Index (Statistics Canada, 2021a).

#### 2.2.2. Sexual orientation

We use a partnership-based measure of sexual orientation, which proxies one's sexual orientation based on the sex/gender of their cohabiting partner or spouse (Aksoy et al., 2018; Carpenter & Eppink, 2017; Waite & Denier, 2015b). Past literature has extensively discussed the advantages and limitations of the various approaches to measuring sexuality, including identity-based measures that use sexual orientation (Carpenter, 2008; Plug & Berkhouit, 2004; Waite et al., 2020), attraction-based measures that ask whether individuals are attracted to one gender (exclusively) or more (Mize, 2016; Oi, 2022), behavior-based approaches that focus on same-sex sexual behavior (Badgett, 1995; Berg & Lien, 2002; Black et al., 2003), and partnership-based measures (Aksoy et al., 2018; Carpenter & Eppink, 2017; Waite & Denier, 2015b). The partnership-based approach is unable to capture individuals' orientation if they are single in the year of data collection, and grounds orientation around a single gender preference, ignoring bisexuality and pansexuality. Importantly, past research has noted that wage gaps measured based on couple data tend to be larger than those measured using data based on individuals' self-reported sexual orientation/attraction and includes those who are

<sup>2</sup> Each observation is drawn from the T1 Family File (T1FF), an internal Statistics Canada dataset including all Canadian tax filers. For confidentiality reasons, that source file is not made available to researchers.

<sup>3</sup> In Canada, cohabitation has been recognized as common-law union since 1993 (including same-sex couples since 1999). The federal law requires common-law couples to report their status in income tax returns. This paper uses common-law and cohabitation interchangeably, as is common in the Canadian context.

<sup>4</sup> Once first-time filing individuals are selected into the LAD, their records are in the LAD in subsequent years even for years when they did not file taxes. In some situations, an "imputed" record with limited information derived from previous years or from a filing spouse's record can be created. In most cases, however, a record appears indicating only that the individual did not file in a given tax year. In other words, "imputation" in this context means creating an empty or placeholder record for a filer who is known to exist but did not file taxes in a given year.

currently single in addition to those in couples (Aksoy et al., 2018; Bryson, 2017; Mize, 2016; Uhrig, 2015).

However, the longitudinal nature of the data alongside the same-sex couple flag in the LAD allow us to closely examine partnership trajectories and income trajectories in ways that cross-sectional survey data cannot. Having the partnership history of individuals also allows us to address the fluidity of sexual practices, which can change over time especially among women (Diamond, 2008; Hu & Denier, 2023; Mittelman, 2023). The current study also differs from past research that takes a partnership-based approach, where individuals who are single in the year of data collection are excluded from the analysis. In our data, some aspect of individuals' sexual orientation can be established as long as they have ever been observed in a couple since age 18 between 2000 and 2019 —*inferred sexual orientation*.<sup>5</sup> Given the inclusion of individuals born between 1959 and 1986, this means that we observe coupling behavior between ages of 18–33 for the youngest sample members, and 41–60 for the oldest sample members. Appendix Table A.1 shows the relationship observation window (full table) as well as the years included in the earnings analysis (bolded ages). We categorize individuals into four categories. First, we identify those who have ever been in a same-sex couple (SSC) and never been in a different-sex couple (DSC), and at times refer to them as gay or lesbian for sake of space. Second, we identify those who have ever been in a different-sex couple and never been in a same-sex couple, and refer to them as heterosexual. Third, we identify those who have ever been in both same-sex and different-sex couples. Lastly, those who have never been in a couple between 2000 and 2019 are categorized as *never coupled*.<sup>6</sup> We refer to these categories as inferred sexual orientation, recognizing that they might not necessarily align with individuals' sexual identities.

### 2.2.3. Cohort

As mentioned above, we select individuals born between 1959 and 1986. The selection of cohorts is largely constrained by individuals' age between 2000 and 2019. We seek to observe individuals' earnings at ages when people typically have entered the workforce. Thus, we set the lower age bound at 25, with the shortest observation window being 9 years (for the 1986 birth year from age 25–33), and the longest being 20 years (for cohorts 1969–1975 from age 31–50, and 25–44, respectively). Moreover, since the same-sex couple flag, available only beginning in 2000, is the only way for us to identify some aspect of sexual orientation, we include individuals who are of ages of union formation (early- to mid-adulthood) during the 20-year period. We recoded cohort into five groups with five-year interval, except for the oldest and youngest cohorts, which include six years (1959–1964 (ref.), 1965–1969, 1970–1974, 1975–1979, 1980–1986). Appendix Table A.1 illustrates the sample by age and cohort between 2000 and 2019.

### 2.2.4. Family status

As some research has suggested, sexual orientation wage and

<sup>5</sup> It is worth noting that we found some discrepancy in the sex variable for a very small number of cases, where these individuals' sexes vary across tax years. Because the LAD assigns the imputed (non-filing) spouse the sex code opposite to that of their filing spouse, this leads to an underestimation of same-sex couples in years when one of the same-sex spouses does not file taxes and becomes an imputed spouse. In other words, individuals who have ever been in same-sex couples are prone to "sex code inconsistency" across tax years, resulting in them having a non-trivial chance of not being correctly flagged as a same-sex couple. We adopt a series of strategies to correct these discrepancies before our analyses (Yang et al., 2024).

<sup>6</sup> The designation 'never coupled' refers specifically to never having been in a common-law or marital partnership and people in this category will include people who are continually single or have been in relationships that do not result in common-law or marital partnership (often non-residential partnerships). Additionally, we do not infer sexual orientation for people in this category, and it will include people of varying sexual identities.

earnings gaps between partnered individuals are larger than those between individuals who are single. In addition, some studies suggest that married couples engage in household specialization to a greater extent compared to cohabiting couples (Becker, 1981; Brines & Joyner, 1999; Jepsen & Jepsen, 2015). We include marital status as a three-category time-varying variable (1 =married (ref.); 2 =common-law; 3 =single). Much research has documented the fatherhood premiums and motherhood penalties associated with transition into parenthood, and that care responsibilities vary depending on the number of children (Fuller, 2008; Fuller & Cooke, 2018; Glauber, 2018). We include this time-varying variable to capture the number of children in the household in each year (1 = no child (ref.), 2 = one child, 3 = two or more).

### 2.2.5. Employment characteristics

We control for the main sub-sector of individuals' paid employment activity according to the 3-digit North American Industry Classification System (NAICS) of the employers. Some individuals are employed but do not have a payroll slip emitted by an employer (called a T4 slip in Canada), or missing industry information for the business, and as a result we assign them to an independent category (with 22 categories in total). This variable is available since 2000. We also include a dichotomous variable indicating whether one is self-employed (ref.= not self-employed) (Pajovic et al., 2023). We also control for time-varying student status based on whether they report tuition fees in a given tax year. Finally, we create time-varying measures indicating cumulative years of labor force attachment since age 20.<sup>7</sup>

### 2.2.6. Sociodemographic characteristics

Sexual minorities tend to be geographically concentrated in large urban centers in Canada (Denier & Waite, 2017). Given the geographic distribution of earnings and differences in the political and cultural climates across regions, such as the level of tolerance toward sexual minorities, we control for time-varying province/territories (ref. = Ontario) and census metropolitan areas (CMAs) (1 =Montreal, Toronto and Vancouver (ref.); 2 =Other CMAs and 3 = not CMAs) based on individuals' residence. We control for other sociodemographic characteristics including age and age squared, cohort group, and immigration status (0 = non-immigrant (ref.)).

Appendix Table A.2 provides weighted<sup>8</sup> descriptive statistics for our analytic sample. Of note, administrative data do not contain some standard predictors, including occupational attainment and education level. We discuss how this impacts our findings.

### 2.3. Method and analytical strategy

We use growth curve models to estimate earnings growth in early/mid-adulthood (age 25–50), and how growth differs by inferred sexual orientation. Growth curve analysis relies on a multilevel modeling framework to analyze repeated observations nested within individuals, including both time-varying and time-invariant variables potentially

<sup>7</sup> This measure is created based on whether an individual reports an amount of \$500 or more in any of the following categories: 1) Non-taxable Income (Social Assistance or Workers' Compensation Payments), 2) Disability Amount for Self (physical or mental impairment noticeably restricting the tax filer's activities of daily living), and 3) Employment Insurance benefits. An amount of over \$500 might indicate involuntary job losses, prolonged non-employment spells or absence from work such as maternity and parental leaves (St-Denis & Yang, 2022). Having a "non-weak" labor force attachment in a year means none of the above criteria is met. This variable is intended to proxy years of work experience.

<sup>8</sup> According to Statistics Canada's confidentiality rule, only weighted descriptive statistics can be released. In our models, we do not apply weights. However, the number of observations included in our models is approximately one fifth of the numbers included in the descriptive table, as the LAD includes about 20% of all Canadian tax filers.

associated with the outcome, i.e. earnings (Singer & Willett, 2003). Individuals' earnings are observed annually from age X to Y, revealing the level of change for each additional year of age to provide an age-income profile. This framework allows us to study labor market outcomes more dynamically, compared to previous studies that relied on point-in-time measures or that measured change considering only two points in time.

To investigate potential sexual orientation differentials, we interact the quadratic term for age with inferred sexual orientation, including the categories mentioned previously (in different-sex couples only; in same-sex couples only; in both same-sex and different-sex couples, and never coupled). We estimate models of the following form separately for men and women:

$$Y_{it} = \gamma_{00} + \gamma_{01}\text{SexualOrientation}_i + \xi_{0i} + (\gamma_{10} + \gamma_{11}\text{SexualOrientation}_i + \xi_{1i})t_{it} + (\gamma_{20} + \gamma_{21}\text{SexualOrientation}_i + \xi_{2i})t_{it}^2 + \beta_1 X_{it} + e_{it}$$

where  $X$  refers to included covariates which may vary both between persons ( $i$ ) and within persons over time ( $t$ ),  $\gamma_{00}$  refers to time-invariant random intercept (baseline earnings),  $\gamma_{01}$  is the term capturing differences in the intercept based on inferred sexual orientation, and  $\gamma_{10}$  and  $\gamma_{20}$  refers to rates of earnings growth over time noted as  $t_{it}$  (age) for the reference sexual orientation group,  $\gamma_{11}$  and  $\gamma_{21}$  are terms that capture the variation in earnings growth rates by inferred sexual orientation. The error terms  $\xi_{0i}$ ,  $\xi_{1i}$  and  $\xi_{2i}$  are stochastic error terms that capture individual differences in baseline earnings and earnings growth rates, respectively. Finally,  $e_{it}$  is a residual for the unpredicted earnings of individual  $i$  at time  $t$ .

Model 1, our baseline model, includes only sexual orientation, age, and their interaction, controlling for cohort. We then sequentially add control variables to explore how specific mechanisms relate to observed inequalities. First, Model 2 adds to our baseline controls for immigration status and geography of residence. Second, Model 3 further adds self-employment and industry of employment. Third, Model 4 adds

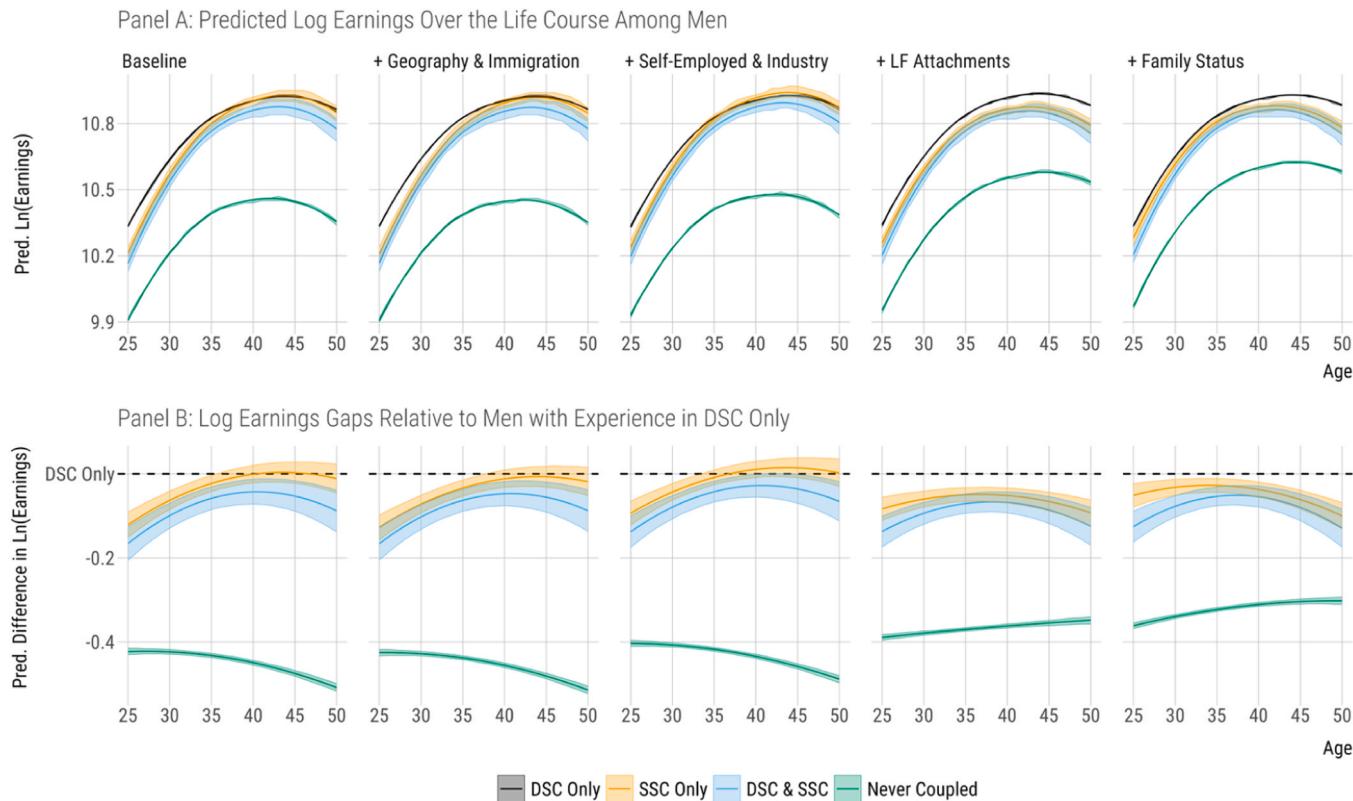
controls for cumulative years of labor force attachment since age 20 and student status. Finally, Model 5 controls marital status and the number of children in the household. All but one covariate are person-year level (level 1) time-varying variables, meaning that they vary both between and within persons ( $i$ ) over time ( $t$ ). The covariate for immigration status is a person-level (level 2) time-invariant variable, meaning that it varies between persons only, but it does not vary within person over time. To evaluate cohort differences, we further include a three-way interaction between age, inferred sexual orientation, and cohort.

From these growth curve models, we estimate age-specific sexual orientation earnings gaps over the life course. For ease of interpretation, we visualize our results. We first show plots of predicted log earnings for each inferred sexual orientation group across ages 25–50 (Panel A for each figure), and then the relative earnings gap at each age for people ever in same-sex couples, ever in both same- and different sex couples, and never in a couple compared to those only ever in different sex couples (Panel B for each figure). Full model outputs are presented in Appendix Tables A.3-A.6.

### 3. Results

Panel A of Fig. 1 plots the average predicted age-earnings profiles for men by inferred sexual orientation. Each graph corresponds to Models 1–5 in Appendix Table A.3, and sequentially includes controls as indicated. For clarity, Panel B of Fig. 1 shows the predicted difference in earnings relative to heterosexual men (only ever in DSC).

The profiles reveal an earnings gap at early career for all groups relative to heterosexual men. For SSC men, this gap narrows over time, converging to the average earnings level of DSC men by age 40. For DSC/SSC men, the gap narrows—but does not converge—over time, even widening again towards age 50. For never coupled men, on the other hand, the large average earnings gap widens over time.



**Fig. 1.** Predicted Earnings Growth and Gaps Among Men by Inferred Sexual Orientation, Baseline and Post-Adjustments. Note: Figure based on Models 1–5 in Table A.3. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.

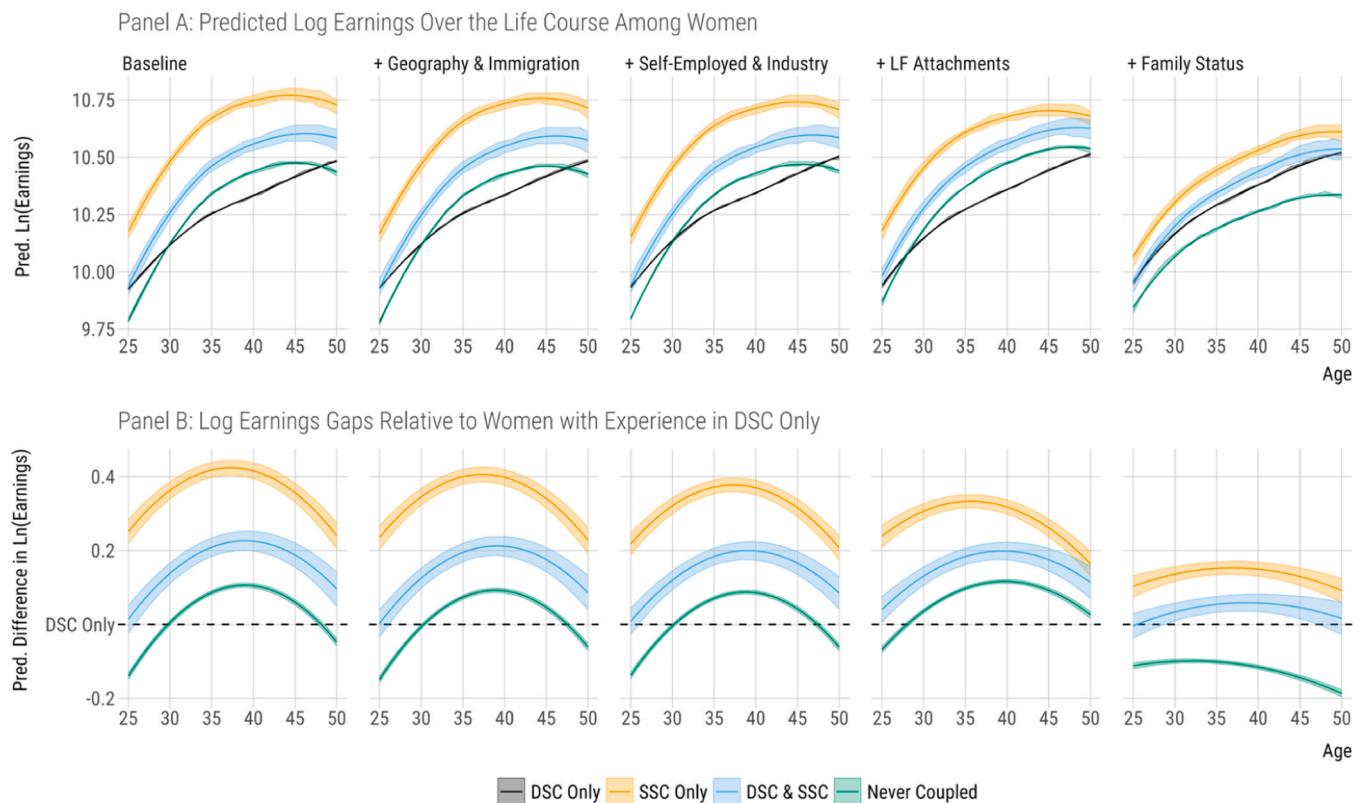
Controlling for geography and immigration status does little to change these general patterns. Work characteristics like self-employment status and industry account for a small share of the observed gap at all ages. Meanwhile, accounting for differences in labor force attachment, measured as cumulative years with strong labor force attachment and student status, attenuates the convergence, such that SSC and DSC/SSC men have an earning gap at all ages relative the DSC men. This suggests that SSC and DSC/SSC men achieve growth relative to DSC men over their careers primarily through strong labor force attachment or avoiding spells of non-employment. For never coupled men, accounting for labor force attachment narrows the gap, suggesting the opposite – that never coupled men experience relatively more unstable careers, which contributes to their earnings disadvantage. Similarly, differences in family status, including marital status and the number of children, explain some of the relative disadvantage of never coupled men.

Turning to results for women in Fig. 2, corresponding to Appendix Table A.4, we see that at career entry, SSC women outearn DSC women, while DSC/SSC women have similar earnings to DSC women, and never coupled women have much lower earnings. Over time, however, all three groups experience stronger earnings growth than do DSC women, especially in the early 30 s and 40 s, which narrows as people approach 50. Controlling for geography, work characteristics, and labor force attachment does little to explain these differences or trends over time. Family status differences in marital status and parenthood, however, have profound impacts on the size and shape of this sexual orientation earnings inequality. Once controlling for family status, the earnings advantage of SSC relative to DSC women shrinks, especially in midlife (35–40), prime childrearing years. DSC/SSC only have a small relative advantage in midlife, and never coupled women with similar characteristics to DSC actually experience an earning disadvantage that grows over time. Altogether the results show that a large share of the earnings advantage experienced by SSC and DSC/SSC women relative to DSC

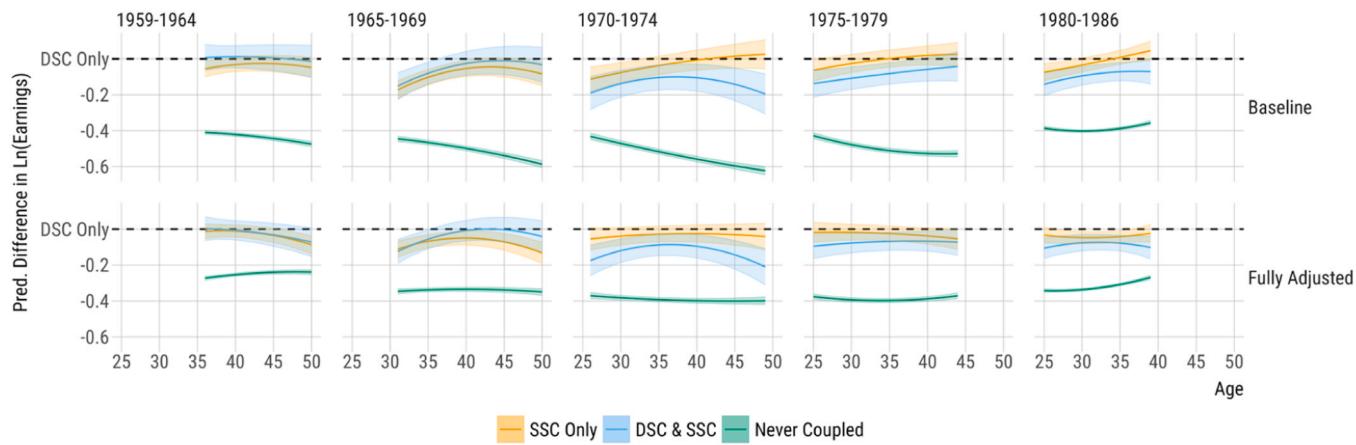
women over their life course is accounted for by their lower probability of childrearing and of being married, which carry significant penalty (see coefficients in Table A.4).

To contextualize how these patterns relate to broader gender inequality, we also visualized results from a gender-pooled model in Appendix Figure A.3. The graphs reveal a somewhat familiar picture: DSC men have the highest earnings, followed by SSC men, DSC & SSC men, SSC women, DSC & SSC women, never coupled men, never coupled women, and DSC women. The last three groups change position amongst each other in their 40 s, but the ordering of the other groups remains fairly consistent across the life course. Adding controls for geography, immigration status, labor market, and family characteristics solidifies the advantage of DSC men.

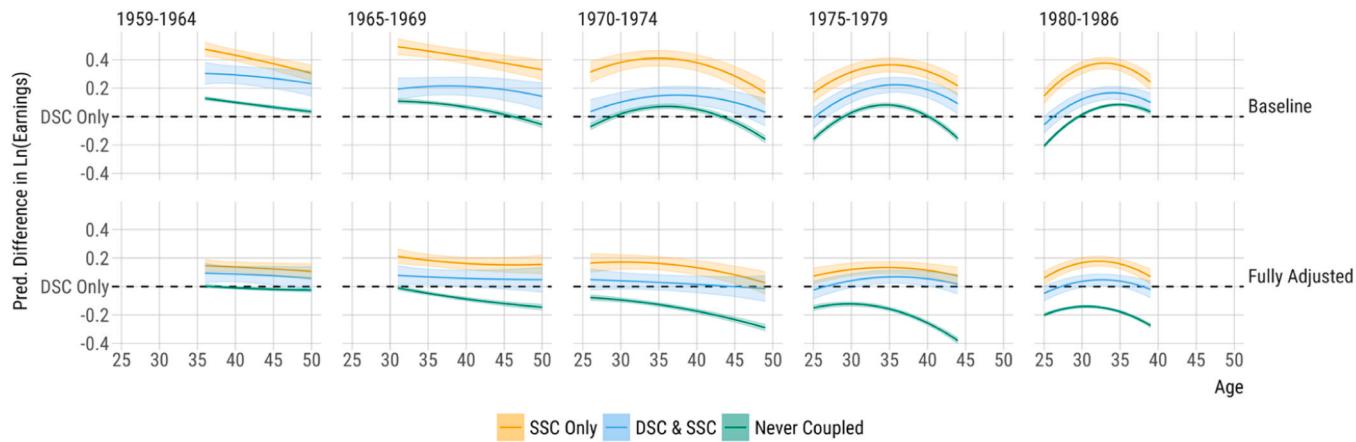
Do these dynamics vary across cohorts? Fig. 3 shows average earnings trajectories for men by sexual orientation across cohorts. From the figures, it appears that earnings gaps for SSC relative to heterosexual men narrow across cohorts, while those for SSC/DSC widen for more recent cohorts. In Appendix Table A.5, results show that for SSC men compared to DSC men, the only statistically significant difference is for the most recent cohorts (born 1980–1986) and for DSC/SSC there is no statistically significant cross-cohort change. For women on the other hand, Fig. 4 shows some notable cohort differences. First, in the baseline model, the advantage of SSC women compared to DSC has weakened for more recent cohorts compared to earlier cohorts. But when looking at fully controlled models that include family characteristics, these cohort differences narrow, suggesting that family practices may be converging in ways that shape relative earnings. Second, for never coupled women, more recent cohorts are faring relatively worse compared to DSC women, a pattern that attenuates only slightly when controlling for characteristics. For DSC/SSC women, there are no statistically significant cohort differences. Altogether, the cohort models indicate that changes over time in sexual orientation earnings gaps and dynamics



**Fig. 2.** Predicted Earnings Growth and Gaps Among Women by Inferred Sexual Orientation, Baseline and Post-Adjustments. Note: Figure based on Models 1–5 in Table A.4. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.



**Fig. 3.** Predicted Earnings Gaps Among Men Relative to Men with Experience of DSC Only, by Inferred Sexual Orientation and Cohort, Baseline and Post-Adjustments. Note: Figure based on Models 1 and 4 in Table A.5. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.



**Fig. 4.** Predicted Earnings Gaps Among Women Relative to Women with Experience of DSC Only, by Inferred Sexual Orientation and Cohort, Baseline and Post-Adjustments. Note: Figure based on Models 1 and 4 in Table A.6. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.

differ by gender and sexual orientation, and do not necessarily indicate improvements for sexual minorities.

#### 4. Discussion & conclusions

Aided by longitudinal tax data, our paper examines earnings gaps over the life course, and across cohorts. We provide novel evidence on earnings trajectories of individuals in same-sex and different-sex couples, which gives insights into intragenerational earnings mobility and the mechanisms leading to observed inequality between heterosexual and LGB people. We offered that trajectories were specifically helpful to understand whether (1) time spent in the labor market leads to disadvantage for LGB people as people reveal their sexual orientations at work, (2) time spent in the labor market leads to attenuation of disadvantage as intergroup contact facilitates greater acceptance, or (3) unique characteristics, including place of residence, work characteristics, labor force attachment, and family status, are valued differently in the labor market for people who have been in same- or different-sex partnerships.

We first estimated average sexual orientation earnings gaps at various ages using a measure of sexual orientation inferred from partnering practices. Echoing previous work, our findings revealed gendered sexual orientation earnings inequality. In unadjusted models, we found that the earnings of men with any SSC experience begin about 10 %

lower than heterosexual men, but converge with those of heterosexual men around age 35, reaching similar earnings levels around age 40. Controlling for individual and work characteristics, particularly labor force attachment and family status, tempers convergence, showing a relative earnings gap even at older ages. At first glance, this offers moderate support for the hypothesis that time spent in labor market may erode certain stereotypes. The controls, however, suggest that SSC men achieve convergence primarily through relatively strong labor force attachment. Both DSC/SSC men and never coupled men experience persistently lower average earnings than heterosexual men over different career stages. For DSC/SSC—some of whom may be bisexual—this would support previous work that shows greater disadvantage for bisexual men (Mize, 2016; Uhrig, 2015; Waite et al., 2020). Never coupled men – who may be any sexual orientation – experience the starker disadvantage, a finding that warrants further research.

For women, those who had experience in SSC or were never in couples, experienced a significant earnings advantage over inferred heterosexual women through middle age. Controlling for characteristics like marriage and parenthood tempers what scholars often label the ‘lesbian wage premium’ over heterosexual women (Badgett, 1995; Baumle & Compton, 2011; Carpenter, 2008; Denier & Waite, 2019; Mize, 2016; Mueller, 2014), particularly among women in their early 30 s. The attenuation of advantage was also clear for women ever in DSC/SSC, and once controlling for family status never coupled women

actually had a large earnings disadvantage relative to heterosexual women. Altogether, the differences observed between women are largely driven by differences in family characteristics, including the number of children in the household.

These findings also have implications for the gender earnings gap. If heterosexual men accumulate advantage relative to gay men over the life course, holding all else constant it suggests that the ideal worker norm may involve assumptions about the household arrangements, preferences, or practices assumed to accompany different-sex coupling. On the other hand, if lesbian women experience 'advantage' over heterosexual women only during prime childbearing/rearing years, it provides further evidence that the persistence of gender inequality in the labor market results from the tension of caregiving and greedy workplaces (Andresen & Nix, 2022; Baumle, 2009). Our results provide some support for these interpretations, echoing previous cross-sectional findings of a nested hierarchy by gender and sexual orientation, but revealing that this pattern largely maintains as people move through their careers. We build on previous findings by showing that both men and women who have never coupled occupy positions closer to the bottom of the earnings hierarchy, which should strengthen calls to study the meaning of singlehood (Ophir et al., 2023). Notably, these dynamics could be the result of behavioral adaptations that people make as they arrange their work and family lives, or discrimination based on animus or statistical assumptions (Baumle, 2009) – we are unable to fully disentangle this in our paper. Altogether, studying the earnings trajectories of sexual minority compared to heterosexual men and women reveals how gender and family formation relate to labor market dynamics. Future research may also consider how partnership status and number of children may differentially impact earnings depending on sexual orientation over long time periods, building on work that focuses on divergence around those transitions.

Turning to dynamics across cohorts, we did not find stark differences for either men or women. Given legal changes, we may have anticipated that most recent cohorts would have fared better than previous generations. If anything, we found the opposite. These findings add to a growing body of work on cohort-level differences in the well-being of LGB people that do not show linear improvements across cohorts, even as laws and attitudes have changed (Liu & Reczek, 2021; Waite, 2015). It may be the case that by the 2000s, all cohorts would have similar experiences in the labor market; considering a comparison of different cohorts in the 1990s and 2000s may yield greater disparities. Further, our analysis could not causally disentangle whether cohort differences are driven by variation in selective disclosure of sexual orientation in the workplace across cohorts, the changing composition of cohorts, the employer and coworker treatment of different cohorts, and the timing of 'coming out', which may impact educational or occupational choices. Our findings indeed may reflect all these processes. For instance, for older cohorts, perhaps only the most financially stable people felt comfortable forming common law or marital same-sex relationships, whereas for younger generations, more people across the earnings distribution may identify as LGBTQ+ and form same-sex partnerships. Our measure of sexual orientation may also amplify this dynamic: given the youngest cohort is only followed until between the ages of 33–39 (born between 1980–1986), perhaps only those most socioeconomically advantaged will have formed at least one stable (of at least one year) coresident partnership. Moreover, if people are identifying as LGBTQ+ earlier in life, this may impact the types of educational or career pathways one chooses, perhaps in ways that do not lead to steeper earnings growth. Additional research using full population data would be helpful for disentangling these possibilities.

Our study was both enhanced and limited by our data. The LAD afforded longitudinal analyses with exceptionally large sample sizes and high-quality earnings data but required that we infer some aspect of sexual orientation from partnership status. While the data included years when people were single, we could not infer sexual orientation for people who were never in a common-law or marital union, and this

group of people had especially low earnings. Previous work suggests that sexual orientation wage and earnings gaps, particularly between men, are larger between coupled people and may even disappear for single people (Aksoy et al., 2018; Bryson, 2017; Mize, 2016; Uhrig, 2015). Further, while we were able to estimate earnings for people who had been in both SSC and DSC, we were unable to identify whether these different partnerships corresponded to changes in sexual identity. In addition to imperfect measures of sexual orientation, the LAD does not include information on some characteristics associated with labor market outcomes, including hours worked, education, and occupation. Previous research indicates that gay men and lesbian women are highly educated (Mollborn & Everett, 2015; Waite et al., 2020; Waite & Denier, 2015b), which would suggest that our estimates of earnings inequality are conservative. At the same time, at the lower end of the earnings distribution, gay men tend to sort into sales and service occupations, rather than more highly paid manufacturing and construction jobs, which may explain some of the observed earnings inequality. Conversely, lesbian women are more likely to sort into male-dominated occupations, which may in part explain some of their earnings advantage over heterosexual women (Antecol et al., 2008; Denier & Waite, 2017, 2019; Dilmaghani, 2018). While we were unable to adjust for these variables in our analyses, our findings were largely consistent with previous research.

Our analysis highlights the importance of understanding how earnings inequality unfolds across the life course. Average sexual orientation earnings gaps converge and diverge at different points, and at each stage may relate to unique mechanisms, including work characteristics and family status. Earnings gaps observed at specific life course stages can translate into substantially different cumulative lifetime earnings even if earnings profiles tend to eventually converge. The longitudinal patterns we documented in this study therefore allow us to reveal patterns that were not captured by past cross-sectional analysis, which contributes to understandings of how inequalities accumulate over the life course for people of different sexual orientations.

## CRediT authorship contribution statement

**Chih-lan Winnie Yang:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Nicole Denier:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Xavier St-Denis:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing – review & editing. **Sean Waite:** Conceptualization, Funding acquisition, Project administration, Writing – review & editing.

## Declaration of Competing Interest

We report no conflicts of interest.

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## Appendix A

**Appendix Table A.1**

Observed Age Range of Analytical Sample by Birth Cohort, 2000–2019.

Cohort	Year																		
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1959	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
1960	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
1961	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
1962	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1963	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
1964	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
1965	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
1966	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
1967	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
1968	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1969	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
1970	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
1971	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
1972	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1973	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1974	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1975	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1976	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1977	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
1978	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1979	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1980	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1981	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
1982	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1983	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1984	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1985	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1986	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Note: Bolded ages represent sample included in the analysis.

**Appendix Table A.2**

Weighted Descriptive Statistics of Sample by Sex.

	Men (%)	Women (%)	Total (%)
<b>Inferred Sexual Orientation</b>			
DSC only	89.81	90.31	90.06
SSC only	0.60	0.64	0.62
DSC & SSC	0.31	0.40	0.35
Never coupled	9.28	8.66	8.97
<b>Cohort</b>			
1959-1964	21.51	21.26	21.38
1965-1969	20.87	20.97	20.92
1970-1974	20.66	20.84	20.75
1975-1979	18.46	18.60	18.53
1980-1986	18.49	18.33	18.41
<b>Marital status</b>			
Married	51.27	51.47	51.37
Common-law	19.71	18.73	19.22
Single	29.01	29.79	29.41
<b>Number of children</b>			
No child	44.64	33.74	39.16
1	17.71	23.13	20.43
2 +	37.66	43.13	40.41
<b>Province and Territories</b>			
Ontario	36.73	37.56	37.15
Quebec	25.09	24.50	24.79
British Columbia	11.94	12.33	12.14
Alberta	11.85	11.10	11.47
Manitoba	3.52	3.48	3.50
Saskatchewan	3.05	3.03	3.04
Atlantic provinces	7.46	7.62	7.54

(continued on next page)

Appendix Table A.2 (continued)

	Men (%)	Women (%)	Total (%)
Territories	0.36	0.37	0.37
<b>Census Metropolitan Areas</b>			
Montreal, Toronto, Vancouver	32.83	33.69	33.26
Other CMAs	48.76	48.87	48.81
Not CMA	18.42	17.44	17.93
<b>Immigration Status</b>			
Non-immigrant	84.75	84.31	84.53
Immigrant	15.25	15.69	15.47
<b>Self-employment</b>			
Not self-employed	74.47	78.60	76.54
Self-employed	25.53	21.40	23.46
<b>Industry</b>			
Manufacturing	16.03	6.88	11.43
Agriculture, Forestry, Fishing and Hunting	1.94	0.85	1.39
Mining and Oil and Gas Extraction	2.31	0.53	1.41
Utilities	1.05	0.45	0.75
Construction	10.03	1.84	5.91
Wholesale Trade	6.12	3.49	4.80
Retail trade	7.19	9.36	8.28
Transportation and Warehousing	5.47	2.54	4.00
Information and Cultural Industries	2.47	2.03	2.25
Finance and Insurance	3.10	5.71	4.41
Real Estate and Rental and Leasing	1.36	1.33	1.35
Professional, Scientific and Technical Service	5.87	5.27	5.57
Management of Companies and Enterprises	0.78	0.78	0.78
Administrative and Support, Waste Management and Remediation Service	4.36	4.11	4.23
Educational Services	4.33	10.74	7.55
Health Care and Social Assistance	2.80	15.07	8.97
Arts, Entertainment and Recreation	1.03	1.19	1.11
Accommodation and Food Services	2.96	5.19	4.08
Other Services (except Public Administration)	3.05	3.83	3.44
Public Administration	8.84	10.66	9.76
No T4	8.59	7.81	8.20
Missing	0.32	0.34	0.33
<b>Student Status</b>			
Non-student	93.96	91.17	92.56
Student	6.04	8.83	7.44
Cumulative years of strong labor force attachment since 20	Mean/(SD)	Mean/(SD)	Mean/(SD)
	13.41 (6.88)	13.41 (6.41)	13.44 (6.65)
Weighted observations (Person Years)	70302285	71106415	141408700
Weighted observations (Persons)	5064720	5334025	10398745

Note: Observations are weighted and rounded to the nearest 5 as required by the confidentiality rule of Statistics Canada.

Appendix Table A.3

Mixed Effects Estimates of Age-Earnings Profiles, Men.

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4	Model 5
Age	0.075*	0.075*	0.073*	0.024*	0.022*
Age squared	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*
<b>Inferred Sexual Orientation (ref=DSC)</b>					
SSC only	-0.121*	-0.127*	-0.094*	-0.083*	-0.051*
x Age	0.013*	0.013*	0.012*	0.006*	0.005*
x Age Sq.	-0.000*	-0.000*	-0.000*	-0.000*	-0.000*
SSC & DSC	-0.166*	-0.166*	-0.138*	-0.137*	-0.126*
x Age	0.016*	0.015*	0.014*	0.011*	0.012*
x Age Sq.	-0.001*	-0.000*	-0.000*	-0.000*	-0.000*
Never coupled	-0.423*	-0.425*	-0.403*	-0.389*	-0.361*
x Age	0.001	0.000	-0.000	0.002*	0.005*
x Age Sq.	-0.000*	-0.000*	-0.000*	-0.000	-0.000*
<b>Marital Status (ref. = Married)</b>					
Common-law					-0.034*
Single					-0.080*
<b>Number of Children (ref. = No child)</b>					
1 child					-0.004*
2 or more					-0.018*
<b>Cohort</b>	x	x	x	x	x
<b>Province</b>		x	x	x	x
<b>CMA</b>		x	x	x	x
<b>Immigration status</b>	x	x	x	x	x
<b>Self-employment</b>		x	x	x	x
<b>Industry</b>		x	x	x	x
<b>Student</b>			x	x	x
<b>Strong labor force attachment</b>			x	x	x

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**Appendix Table A.3 (continued)**

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	10.112*	10.191*	10.408*	10.321*	10.373*
sd(age)	0.003	0.003	0.003	0.003	0.003
sd(constant)	0.826	0.804	0.707	0.658	0.650
cov(age, constant)	-0.030	-0.029	-0.027	-0.028	-0.028
sd(residual)	0.202	0.201	0.198	0.194	0.194

\*  $p < 0.05$ . Note: N= 14,059,575 individuals. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple.

**Appendix Table A.4**

Mixed Effects Estimates of Age-Earnings Profiles, Women.

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4	Model 5
Age	0.049*	0.049*	0.046*	-0.013*	0.024*
Age squared	-0.001*	-0.001*	-0.001*	-0.001*	-0.002*
<b>Inferred Sexual Orientation (ref=DSC)</b>					
SSC only	0.251*	0.235*	0.218*	0.239*	0.103*
x Age	0.028*	0.028*	0.026*	0.018*	0.008*
x Age Sq.	-0.001*	-0.001*	-0.001*	-0.001*	-0.000*
SSC & DSC	0.014	0.003	0.008	0.040*	-0.004
x Age	0.030*	0.030*	0.027*	0.022*	0.009*
x Age Sq.	-0.001*	-0.001*	-0.001*	-0.001*	-0.000*
Never coupled	-0.140*	-0.149*	-0.138*	-0.068*	-0.112*
x Age	0.035*	0.035*	0.033*	0.025*	0.004*
x Age Sq.	-0.001*	-0.001*	-0.001*	-0.001*	-0.000*
<b>Marital Status (ref. = Married)</b>					
Common-law					0.046*
Single					0.078
<b>Number of Children (ref. = No child)</b>					
1 child					-0.298*
2 or more					-0.375*
<b>Cohort</b>	x	x	x	x	x
<b>Province</b>		x	x	x	x
<b>CMA</b>		x	x	x	x
<b>Immigration status</b>		x	x	x	x
<b>Self-employment</b>			x	x	x
<b>Industry</b>			x	x	x
<b>Student</b>				x	x
<b>Strong labor force attachment</b>				x	x
Constant	9.631*	9.815*	9.985*	9.746*	9.829*
sd(age)	0.003	0.003	0.003	0.003	0.003
sd(constant)	1.000	0.965	0.837	0.799	0.737
cov(age, constant)	-0.036	-0.035	-0.031	-0.032	-0.029
sd(residual)	0.286	0.286	0.282	0.273	0.268

\*  $p < 0.05$ . Note: N= 14,216,615 individuals. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple.

**Appendix Table A.5**

Mixed Effects Estimates of Age-Earnings Profiles, Men.

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4
Age	0.048*	0.049*	0.003*	0.004*
Age squared	-0.001*	-0.001*	-0.001*	-0.001*
<b>Cohort (ref=1959-1964)</b>				
<b>1965-1969</b>	0.013	0.027*	-0.012	-0.004
x Age	0.001	-0.001	-0.003*	-0.004*
x Age Sq.	-0.000	0.000	0.000*	0.000*
<b>1970-1974</b>	-0.060*	-0.046*	-0.136*	-0.116*
x Age	0.018*	0.016*	0.013*	0.011*
x Age Sq.	-0.001*	-0.001*	-0.000*	-0.000*
<b>1975-1979</b>	-0.123*	-0.109*	-0.238*	-0.210*
x Age	0.042*	0.039*	0.035*	0.031*
x Age Sq.	-0.002*	-0.002*	-0.001*	-0.001*
<b>1980-1986</b>	-0.073*	-0.059*	-0.199*	-0.168*
x Age	0.054*	0.050*	0.044*	0.039*
x Age Sq.	-0.003*	-0.003*	-0.002*	-0.002*
<b>Inferred Sexual Orientation (ref=DSC)</b>				
SSC only	-0.206*	-0.187*	-0.190*	-0.110*
x Age	0.019*	0.021*	0.019*	0.015
x Age Sq.	-0.001*	-0.001*	-0.001*	-0.001*
x 1965-1969	-0.124	-0.103	-0.098	-0.115
x 1970-1974	0.082	0.094	0.098	0.051

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Appendix Table A.5 (continued)

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4
x 1975-1979	0.142	0.151	0.154	0.092
x 1980-1986	0.131	0.141	0.147	0.077
x 1965-1969 x Age	0.012	0.009	0.009	0.009
x 1965-1969 x Age Sq.	-0.000	-0.000	-0.000	-0.000
x 1970-1974 x Age	-0.009	-0.013	-0.013	-0.010
x 1970-1974 x Age Sq.	0.000	0.000	0.000	0.000
x 1975-1979 x Age	-0.011	-0.014	-0.018	-0.014
x 1975-1979 x Age x Age Sq.	0.000	0.000	0.001	0.000
x 1980-1986 x Age	-0.012	-0.017	-0.024*	-0.020*
x 1980-1986 x Age x Age Sq.	0.001	0.001*	0.001*	0.001*
<b>SSC &amp; DSC</b>	-0.051	-0.029	-0.049	-0.022
x Age	0.008	0.008	0.005	0.006
x Age Sq.	-0.000	-0.000	-0.000	-0.000
x 1965-1969	-0.255	-0.222	-0.247	-0.258
x 1970-1974	-0.156	-0.165	-0.150	-0.171
x 1975-1979	-0.087	-0.077	-0.052	-0.073
x 1980-1986	-0.091	-0.089	-0.061	-0.084
x 1965-1969 x Age	0.022	0.018	0.024	0.025
x 1965-1969 x Age Sq.	-0.001	-0.000	-0.001	-0.001
x 1970-1974 x Age	0.009	0.011	0.011	0.013
x 1970-1974 x Age Sq.	-0.000	-0.000	-0.000	-0.000
x 1975-1979 x Age	-0.002	-0.002	-0.003	-0.001
x 1975-1979 x Age x Age Sq.	0.000	0.000	0.000	0.000
x 1980-1986 x Age	0.004	0.003	0.002	0.003
x 1980-1986 x Age x Age Sq.	-0.000	-0.000	-0.000	-0.000
<b>Never coupled</b>	-0.406*	-0.387*	-0.418*	-0.371*
x Age	0.002	0.001	0.012*	0.012*
x Age Sq.	-0.000*	-0.000*	-0.000*	-0.000*
x 1965-1969	-0.018	-0.017	0.010	0.003
x 1970-1974	-0.016	-0.013	0.022	0.003
x 1975-1979	-0.022	-0.017	0.021	-0.006
x 1980-1986	0.020	0.022	0.056*	0.028
x 1965-1969 x Age	-0.004	-0.004	-0.008*	-0.007*
x 1965-1969 x Age Sq.	0.000	0.000	0.000	0.000
x 1970-1974 x Age	-0.012*	-0.011*	-0.017*	-0.015*
x 1970-1974 x Age Sq.	0.000*	0.000*	0.000*	0.000*
x 1975-1979 x Age	-0.013*	-0.012*	-0.020*	-0.016*
x 1975-1979 x Age x Age Sq.	0.001*	0.000*	0.001*	0.001*
x 1980-1986 x Age	-0.008*	-0.007*	-0.018*	-0.013*
x 1980-1986 x Age x Age Sq.	0.001*	0.001*	0.001*	0.001*
<b>Province</b>	x	x	x	x
<b>CMA</b>	x	x	x	x
<b>Immigration status</b>	x	x	x	x
<b>Self-employment</b>		x	x	x
<b>Industry</b>		x	x	x
<b>Student</b>			x	x
<b>Strong labor force attachment</b>			x	x
<b>Marital Status</b>				x
<b>Number of children</b>				x
Constant	10.505*	10.619*	10.492*	10.517*
sd(age)	0.003	0.003	0.003	0.003
sd(constant)	0.791	0.706	0.657	0.651
cov(age, constant)	-0.029	-0.027	-0.028	-0.028
sd(residual)	0.201	0.197	0.194	0.194

\* $p < 0.05$ . Note: N= 14,059,575 individuals. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple.

Appendix Table A.6

Mixed Effects Estimates of Age-Earnings Profiles, Women.

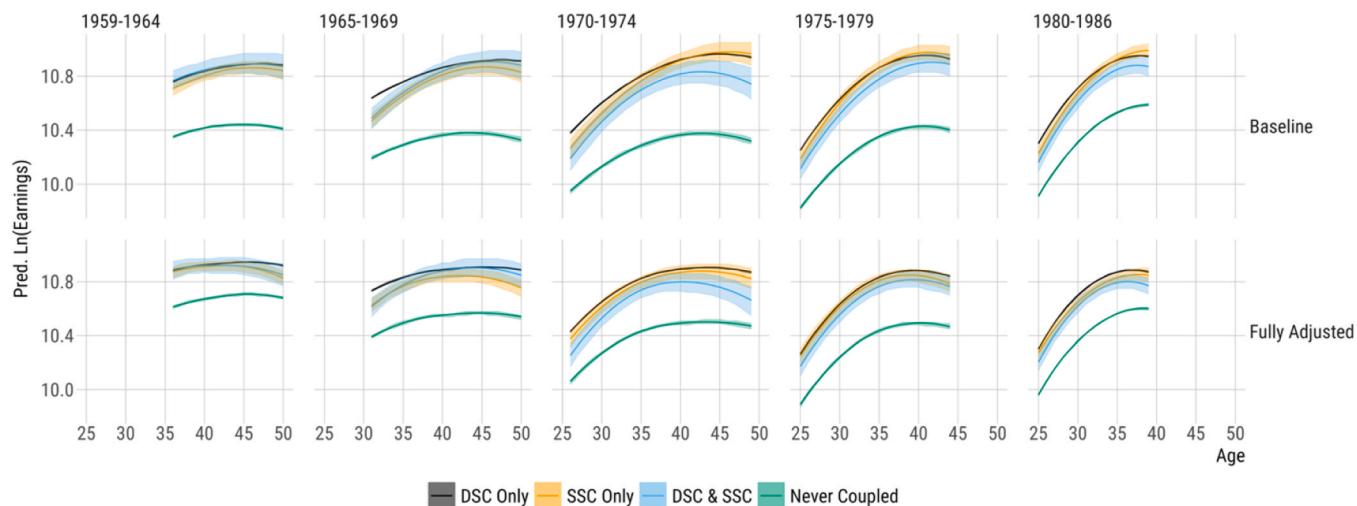
Annual Wage Growth	Model 1	Model 2	Model 3	Model 4
Age	0.077*	0.077*	0.014*	0.040*
Age squared	-0.001*	-0.001*	-0.002*	-0.002*
<b>Cohort (ref=1959-1964)</b>				
<b>1965-1969</b>	0.171*	0.180*	0.100*	0.055*
x Age	-0.008*	-0.009*	-0.009*	-0.004*
x Age Sq.	0.000*	0.000*	0.000*	0.000*
<b>1970-1974</b>	0.435*	0.434*	0.275*	0.184*
x Age	-0.032*	-0.033*	-0.027*	-0.016*
x Age Sq.	0.001*	0.001*	0.001*	0.000*
<b>1975-1979</b>	0.509*	0.506*	0.318*	0.220*
x Age	-0.033*	-0.036*	-0.032*	-0.019*
x Age Sq.	0.001*	0.001*	0.001*	0.001*

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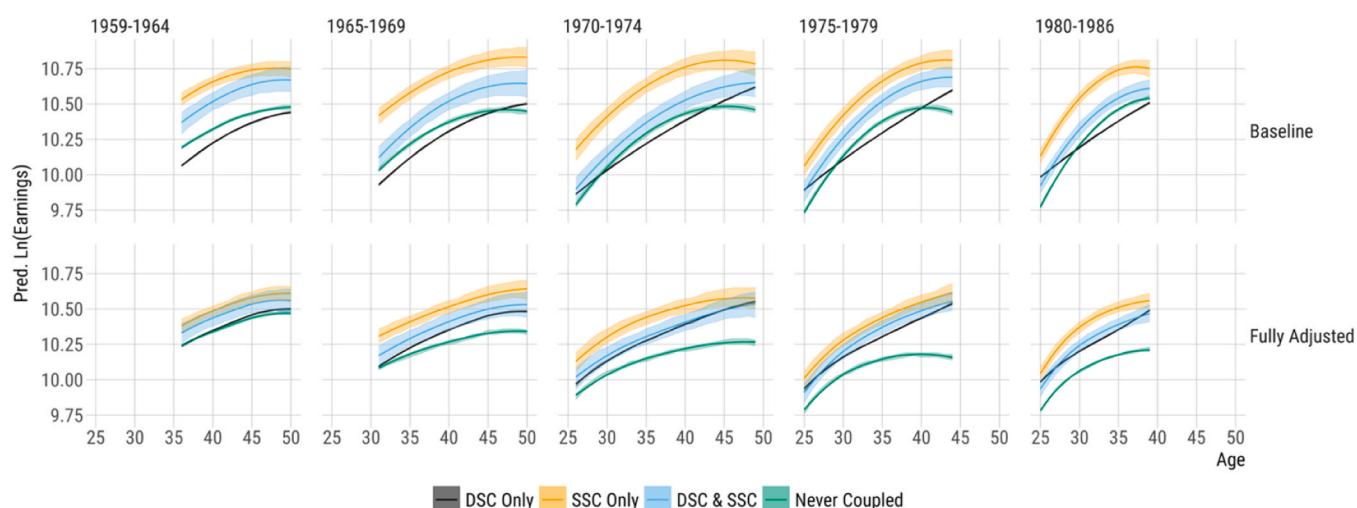
Appendix Table A.6 (continued)

Annual Wage Growth	Model 1	Model 2	Model 3	Model 4
<b>1980-1986</b>	0.597*	0.587*	0.387*	0.275*
x Age	-0.032*	-0.036*	-0.038*	-0.024*
x Age Sq.	0.001*	0.001*	0.001*	0.001*
<b>Inferred Sexual Orientation (ref=DSC)</b>				
<b>SSC only</b>	0.564*	0.476*	0.447*	0.170
x Age	-0.007	-0.001	0.000	-0.002
x Age Sq.	-0.000	-0.000	-0.000	-0.000
x 1965-1969	-0.029	0.007	0.057	0.099
x 1970-1974	-0.275*	-0.203	-0.141	-0.008
x 1975-1979	-0.396*	-0.317*	-0.277*	-0.097
x 1980-1986	-0.419*	-0.346*	-0.319*	-0.110
x 1965-1969 x Age	-0.000	-0.003	-0.010	-0.009
x 1965-1969 x Age Sq.	0.000	0.000	0.000	0.000
x 1970-1974 x Age	0.031*	0.024*	0.011	0.006
x 1970-1974 x Age Sq.	-0.001*	-0.001*	-0.001	-0.000
x 1975-1979 x Age	0.045*	0.037*	0.024*	0.014
x 1975-1979 x Age x Age Sq.	-0.002*	-0.002*	-0.001*	-0.001*
x 1980-1986 x Age	0.065*	0.057*	0.046*	0.035*
x 1980-1986 x Age x Age Sq.	-0.004*	-0.003*	-0.003*	-0.002*
<b>SSC &amp; DSC</b>	0.297	0.233	0.264	0.094
x Age	0.003	0.008	0.002	0.001
x Age Sq.	-0.000	-0.000	-0.000	-0.000
x 1965-1969	-0.159	-0.103	-0.096	0.004
x 1970-1974	-0.284	-0.205	-0.177	-0.044
x 1975-1979	-0.307	-0.239	-0.252	-0.119
x 1980-1986	-0.354*	-0.280	-0.287	-0.142
x 1965-1969 x Age	0.009	0.002	0.004	-0.005
x 1965-1969 x Age Sq.	-0.000	-0.000	-0.000	0.000
x 1970-1974 x Age	0.019	0.012	0.010	-0.003
x 1970-1974 x Age Sq.	-0.001	-0.001	-0.000	0.000
x 1975-1979 x Age	0.040*	0.032	0.032	0.016
x 1975-1979 x Age x Age Sq.	-0.002*	-0.001*	-0.001*	-0.001
x 1980-1986 x Age	0.046*	0.039*	0.042*	0.024
x 1980-1986 x Age x Age Sq.	-0.003*	-0.002*	-0.002*	-0.002*
<b>Never coupled</b>	0.212*	0.187*	0.191*	0.057*
x Age	-0.008*	-0.007*	0.000	-0.006*
x Age Sq.	0.000	0.000	-0.000	0.000
x 1965-1969	-0.113*	-0.094*	-0.041	-0.002
x 1970-1974	-0.314*	-0.281*	-0.211*	-0.132*
x 1975-1979	-0.371*	-0.335*	-0.292*	-0.207*
x 1980-1986	-0.419*	-0.378*	-0.350*	-0.257*
x 1965-1969 x Age	0.012*	0.010*	0.001	-0.006
x 1965-1969 x Age Sq.	-0.000*	-0.000*	-0.000	0.000
x 1970-1974 x Age	0.039*	0.036*	0.020*	0.004
x 1970-1974 x Age Sq.	-0.001*	-0.001*	-0.001*	-0.000*
x 1975-1979 x Age	0.059*	0.055*	0.037*	0.018*
x 1975-1979 x Age x Age Sq.	-0.003*	-0.003*	-0.002*	-0.001*
x 1980-1986 x Age	0.067*	0.065*	0.048*	0.027*
x 1980-1986 x Age x Age Sq.	-0.003*	-0.003*	-0.003*	-0.002*
<b>Province</b>	x	x	x	x
<b>CMA</b>	x	x	x	x
<b>Immigration status</b>	x	x	x	x
<b>Self-employment</b>				
<b>Industry</b>		x	x	x
<b>Student</b>			x	x
<b>Strong labor force attachment</b>			x	x
<b>Marital Status</b>				x
<b>Number of child</b>				x
Constant	9.554*	9.710*	9.491*	9.679*
sd(age)	0.003	0.003	0.003	0.003
sd(constant)	0.967	0.840	0.801	0.738
cov(age, constant)	-0.035	-0.031	-0.032	-0.029
sd(residual)	0.286	0.282	0.273	0.268

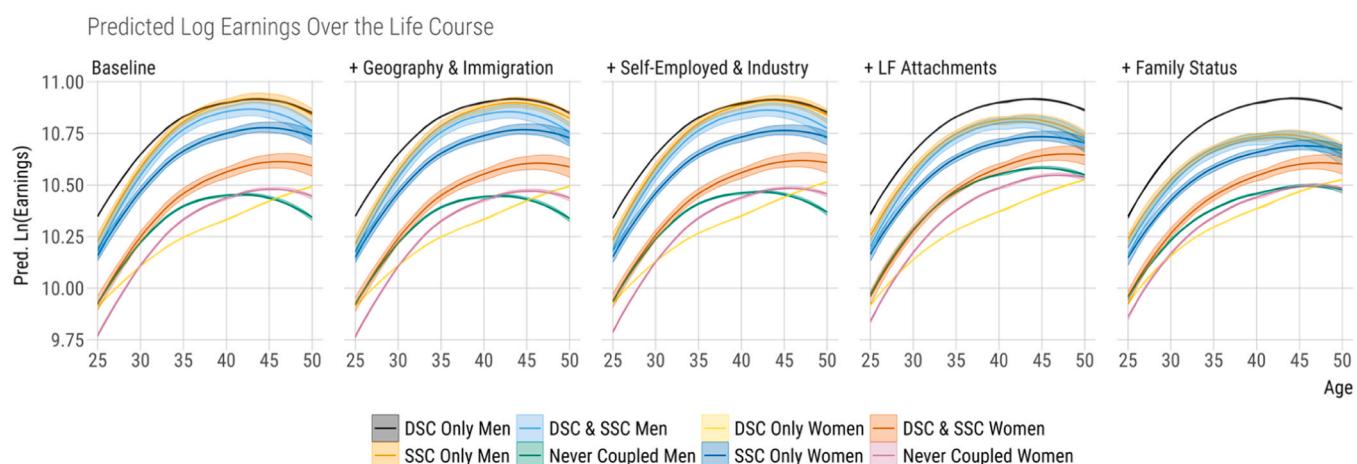
\* $p < 0.05$ . Note: N= 14,216,615 individuals. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple.



**Figure A.1.** Predicted Earnings Growth Among Men by Inferred Sexual Orientation and Cohort, Baseline and Post-Adjustments. Note: Figure based on Models 1 and 4 in Table A.5. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.



**Figure A.2.** Predicted Earnings Growth Among Women by Inferred Sexual Orientation and Cohort, Baseline and Post-Adjustments. Note: Figure based on Models 1 and 4 in Table A.6. SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.



**Figure A.3.** Predicted Earnings Growth and Gaps by Inferred Sexual Orientation (Pooled), Baseline and Post-Adjustments. Note: SSC indicates person was in a same-sex couple; DSC indicates person was in a different-sex couple; SSC & DSC indicates person was in a same-sex and different-sex couple. “Loess” smoothing function is applied using the ggplot2 package in R.

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