

Original Article

Self-Rated Health by Sexual Orientation Among Middle-Aged and Older Adults in Canada

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Abstract

Objectives: This article examines patterns of self-rated physical and mental health by sexual orientation among middle-aged and older adults in Canada, a rapidly growing subpopulation shown to be at risk of poor health.

Method: We use the Canadian Community Health Survey (CCHS 2015–2016) to estimate logit models predicting fair/poor self-rated physical and mental health by sexual orientation among middle-aged and older adults, stratifying by sex and age group.

Results: We find no differences in physical health for gay men and lesbian women compared with their heterosexual counterparts. However, middle-aged gay men are disadvantaged in terms of mental health, but not women. Bisexual women are disadvantaged in terms of physical health, and for mental health in some model specifications. Respondents who did not know their sexual orientation have poorer health across some measures of health and age groups.

Discussion: Our findings add to the paucity of research on older sexual minorities in Canada. They highlight the importance of separating out sexual minority groups because bisexual women have distinct health profiles. In addition, this is the first study to examine the health of respondents who “do not know” their sexual orientation, and future research should distinguish between different explanations for their poor health.

Keywords: Mental health, Health disparities, Diversity in aging, LGB

The population of middle-aged and older sexual minorities in Canada is not small. Recent estimates show that 2% of Canadian adults 45 and older are gay, lesbian, or bisexual (authors' calculations of Canadian Community Health Survey [CCHS] 2015–2016; [Stinchcombe, Wilson, Kortés-Miller, Chambers, & Weaver, 2018](#)), and this population is likely to grow over time due to population growth, population aging, and increased rates of identification over time because of higher levels of social tolerance. The health of older sexual minorities is an important topic of study, as this group may have unique health care needs. Despite the significance of the topic and the growth of this population subgroup, the health of the older sexual minority population remains under-

studied in population research, especially in Canada ([Stinchcombe et al., 2018](#)).

Canada is an important context in which to consider the health of sexual minorities. First, Canada is a high-income country with fairly liberal attitudes toward homosexuality ([Andersen & Fetner, 2008](#)). This can be seen in terms of early legal protection of sexual minorities in Canada, where same-sex marriage was legalized at the federal level in 2005, about a decade before the United States ([Curtis, 2018](#)). Second, Canada has had publicly funded, universal health care since 1968 ([Martin et al., 2018](#)), which may help to ameliorate inequalities in health care access and utilization ([Lasser, Himmelstein, & Woolhandler, 2006](#)). However, although universal health care includes physical

health care and hospital care, it does not include most mental health care services (Steele, Glazier, & Lin, 2006). This may mean that disparities by sexual orientation might be greater for mental health than physical health if access to care is lower among sexual minorities, especially those with lower income (Ross, Gibson, Daley, Steele, & Williams, 2018). Third, the current government has emphasized the importance of prioritizing and reconciling the needs of sexual minorities. Today's middle-aged and older sexual minorities lived through a period when discrimination was rampant, and Prime Minister Justin Trudeau recently apologized for historical events which negatively affected this community such as the Bathhouse Raids of 1981, criminalization of the LGBTQ+ community, and mistreatment within the workplace (Trudeau, 2017). Studying patterns of health among sexual minorities is necessary to inform policy interventions to address the specific health needs of this population.

In this article, we examine how self-rated physical and mental health vary by sexual orientation for middle-aged and older men and women in Canada. Our analysis makes three contributions. This is the first analysis of older adults in Canada that distinguishes between lesbian, gay, and bisexuals compared with heterosexuals; the one published a study on older adults by sexual orientation combines bisexual and gay/lesbians of each sex (Stinchcombe et al., 2018). Second, this is the first study to include and analyze the sizeable group of adults who reported that they did not know their sexual orientation. Other studies drop cases where respondents responded that they did not know (e.g., Brennan, Ross, Dobinson, Veldhuizen, & Steele, 2010; Conron, Mimiaga, & Landers, 2010; Tjepkema, 2008), and this group may have specific health needs and high levels of disadvantage. Third, all research on the health of sexual minority adults in Canada except one (Stinchcombe et al., 2018) focuses on adults through middle age, whereas we focus on middle-aged and older adults and the differences between the two groups. These cohorts of sexual minorities came of age in a more conservative historical period, which could have consequences for their health. As this subgroup of older adults continues to grow in Canada, we need to be able to better characterize their health profiles and needs.

Health Differences by Sexual Orientation Among Middle-Aged and Older Adults in Canada

There is a dearth of research on the health of older sexual minorities in Canada. Questions about sexual orientation started being asked on the primary national population survey, the Canadian Community Health Survey, in 2003, but these questions were only asked of respondents aged 18–59 through 2014. Right now, there is only one published study examining health disparities of older adults (45–85) by sexual orientation in Canada (Stinchcombe et al., 2018) using data from the Canadian Longitudinal Study

on Aging. This analysis stratifies the analysis by sex, but combines gay and bisexual men, and lesbian and bisexual women. They find that male and female sexual minorities were no different in the odds of very serious physical health problems compared with heterosexuals (e.g., angina, heart attacks, stroke, and chronic pain). However, they find some physical health disadvantages for sexual minorities such as higher odds of asthma (men and women), respiratory problems (men), cancer (men), and osteoporosis (men), but lower rates of hypertension among women. For mental health outcomes, sexual minority men and women had higher odds of anxiety and mood disorders than their heterosexual counterparts, and sexual minority women had higher odds of fair/poor mental health (Stinchcombe et al., 2018). This study is limited in that it combined homosexual and bisexual adults together, which masks important differences across subgroups of sexual minorities, including the potential additional stressors of biphobia and invisibility among bisexuals (Ross, Dobinson, & Eady, 2010). This motivates why it is important to examine the health of each sexual orientation subgroup separately.

Aside from Stinchcombe and colleagues (2018), Canadian research on sexual minority health has examined samples of adults through middle age (18–59 years). These studies have examined each sexual minority group separately (unlike Stinchcombe et al., 2018), but groups younger and middle-aged adults together. Findings among this population show few differences in overall self-rated physical or mental health for gay men, bisexual men, and lesbian women compared with heterosexuals (Brennan et al., 2010; Steele, Ross, Dobinson, Veldhuizen, & Timmouth, 2009). Bisexual women, however, are more likely to report fair/poor physical and mental health (Steele et al., 2009). All sexual minorities (gay men, bisexual men, bisexual women, and lesbian women) are disadvantaged in terms of suicidal thoughts (Brennan et al., 2010; Steele et al., 2009) and mood/anxiety disorders (Pakula & Shoveller, 2013). Finally, bisexual men and women are more likely to have unmet health care needs (Tjepkema, 2008), which could negatively affect their health.

Uncertainty About Those Who Do Not Know Their Sexual Orientation

It is common for survey questions to yield missing data because respondents refuse to answer or do not know the answer. Questions on sexual orientation often have non-negligible levels of nonresponse, with around one to two percent of all respondents in the CCHS, similar levels to those of some sexual minority groups (Ridolfo, Miller, & Maitland, 2012; Waite & Denier, 2019) and the nonresponse is not random, but rather socially patterned (Jans et al., 2015; Miller & Ryan, 2011; Ridolfo et al., 2012). There are several reasons why respondents might report not knowing their sexual orientation. A respondent might respond that they do not know their sexual orientation because they had

not ever thought about it, or may be unsure about what their sexual orientation is (Miller & Ryan, 2011). They also might say that they do not know because they might not understand the question, and this reason might be associated with high levels of socioeconomic disadvantage (Miller & Ryan, 2011). Or nonresponse might be due to the stigma or perceived stigma of being associated with sexual minorities.

Despite the non-negligible size of the subgroup who reports not knowing their sexual orientation in various surveys, and the potential health disadvantage of this group, no research has examined the health of this group in a multivariate framework. Studies that have examined patterns of nonresponse to sexual orientation questions find that in the United States, nonresponse to sexual orientation questions has become less common over time (e.g., California Health Interview Survey 2003–2011 and BRFSSA-WA 2003–2010; Fredriksen-Goldsen & Kim, 2015; Jans et al., 2015). These studies found that nonresponse was more common among adults aged 65 and older compared with younger age groups, respondents with limited English proficiency, nonwhite respondents, and those who took surveys in Spanish. The only relevant study in Canada finds that those with missing response to the sexual orientation question were likely to be older respondents, and also have a higher prevalence of mood disorders than heterosexuals, but lower than bisexuals or gay/lesbian respondents (Pakula & Shoveller, 2013). Examining the characteristics and health of those who do not know their sexual orientation may help us to test different theories and explanations for why they may be at a health disadvantage.

Mechanisms

There are three potential explanations for health differences by sexual orientation among older adults. First, minority stress theory argues that sexual minorities tend to experience more chronic stressors throughout their life because of their stigmatized sexual minority orientation (Hatzenbuehler, 2009; Meyer, 2003). Older sexual minority adults today are from the preliberation cohort, which means that they were born before 1960, where homosexuality was characterized as a mental health condition in the medical community (Boggs et al., 2017; Brotman, Ryan, & Cormier, 2003). In qualitative research, these cohorts of adults in Canada report barriers to health care services because of discrimination, the invisibility of diverse sexual identities (Brotman et al., 2003), and poor doctor–patient interactions, all of which may contribute to poor health (Stein & Bonuck, 2001). Avoiding health care or the inability to access health care services can accumulate over the life course and lead to poorer health in older age. In addition to contributing to lower levels of health care service utilization, the stigma against sexual minorities may create other stresses and therefore operate as a fundamental cause of health inequalities associated with sexual orientation

(Hatzenbuehler, Phelan, & Link, 2013). Minority stress theory is thought to be particularly important for understanding why bisexuals may have poorer health outcomes because they contend with additional stressors of biphobia and identity erasure from within and outside the LGBTQ+ community (Ross et al., 2010). This explanation for health disparities among sexual minorities motivates the examination of the health of each sexual orientation separately.

A second set of mechanisms focuses on positive aspects of aging that may be particularly important among LGB adults and might contribute to the convergence of health disparities (Fredriksen-Goldsen, Kim, Shiu, Goldsen, & Emler, 2015). For example, older sexual minorities may have developed resiliency and coping mechanisms to help them overcome obstacles (Fredriksen-Goldsen et al., 2015). Sexual minorities may have participated in advocacy initiatives and may be able to carry these advocacy skills into their health care experiences (Boggs et al., 2017). Scholars have examined such positive social resources among sexual minorities alongside aspects, which disadvantage them using the Health Equity Promotion Model (Fredriksen-Goldsen, Kim, Bryan, Shiu, & Emler, 2017). On the one hand, the minority stress theory predicts poorer health outcomes for sexual minorities but it is countered by resiliency, and it is difficult to know how these countervailing forces may play out.

Third, older sexual minorities have different sociodemographic characteristics and this might explain health differences by sexual orientation. For example, in North America, sexual minority adults differ in terms of age and socioeconomic status (Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; Stinchcombe et al., 2018). However, each sexual orientation subgroup by sex tends to have its own distinct sociodemographic profile (Lunn et al., 2017). For example, LGB adults tend to be younger and are more likely to have never been married compared with heterosexual adults. Gay and lesbian older adults tend to be more educated than heterosexuals and other sexual minorities. Bisexual individuals typically have lower household incomes than all other groups (Fredriksen-Goldsen, Emler, et al., 2013). In some studies, accounting for sociodemographic characteristics eliminates many significant health differences by sexual orientation (Fredriksen-Goldsen, Kim, et al., 2013; Stinchcombe et al., 2018). This highlights the importance of controlling for the unique sociodemographic characteristics of each sexual orientation group when examining health by sexual orientation.

All of these three potential explanations for health disparities by sexual orientation (stigma, resiliency, and sociodemographic differences) may also vary by cohort and age. Today's older adults have probably experienced higher levels of minority stress (Meyer, 2003), different patterns of resiliency (Fredriksen-Goldsen et al., 2015), and may be more disadvantaged than middle-aged adults (Brotman et al., 2003), and these advantages or disadvantages

accumulate over time. On the other hand, health disparities tend to decline with age and we may see larger disparities by sexual orientation among the middle-aged group and less so among older adults.

The Present Study

In this study, we address whether self-rated physical and mental health vary by sexual orientation and sex among middle-aged and older adults in Canada. This study has three main contributions. First, we examine the health of all sexual minority groups among older Canadian adults. Second, this study considers adults who did not know their sexual orientation, and their inclusion may highlight a group with specific health needs or disadvantages. Finally, this study focuses on middle-aged and older adults because these two age groups might have distinct health needs, and research has generally focused on younger adults.

Method

Data

We use the 2015–2016 CCHS, a nationally representative cross-sectional survey collected by Statistics Canada, which aims to characterize the health status, determinants of health, and health care utilization patterns among noninstitutionalized Canadians (Waite & Denier, 2019). The 2015–2016 data are the first available data which allow examining the health of older sexual minorities. A question about sexual orientation was introduced in 2003, but only asked to respondents aged 18–59 through 2014. The age restriction was removed in 2015, allowing our analysis of older adults. The response rate of the survey was 59.5%, and survey weights make the results representative of the noninstitutionalized Canadian population aged 45 years and older.

From the original sample ($N = 110,095$), our analytic sample focuses on respondents aged 45 years and older ($N = 64,756$) consistent with previous Canadian studies using the CCHS Healthy Aging Module (Gilmour, 2012). We exclude respondents who did not answer or refused to answer the sexual orientation question ($n = 4,187$). We also exclude respondents who did not answer questions about their self-rated physical and mental health ($n = 124$ and $n = 126$, respectively). Our analytic sample consists of 60,319 respondents.

Dependent Variables

Our two dependent variables are self-rated physical and mental health, measures that have consistently been shown to be an accurate subjective depiction of one's overall well-being (Schnittker & Bacak, 2014), and strong predictors of mortality, morbidity, and health care utilization (Ahmad, Jhaji, Stewart, Burghardt, & Bierman, 2014).

Although some research has argued that the ways in which marginalized groups report self-rated health might differ from other subpopulations (Franks, Gold, & Fiscella, 2003), these broad measures may be particularly important in the context of older LGB adults because they might be at high risk of undiagnosed illnesses due to avoidance of health care, distrust of the medical system (Brotman et al., 2003), and lack of financial resources (Stinchcombe et al., 2018). Both questions had standard responses categories of excellent, very good, good, fair, or poor. We examine dichotomous outcomes indicating either excellent/very good/good or fair/poor health, for both mental and physical health.

Primary Independent Variable

Sexual orientation is determined by asking respondents: "Do you consider yourself to be: heterosexual (sexual relations with people of the opposite sex), homosexual, that is lesbian or gay (sexual relations with people of your own sex), bisexual (sexual relations with people of both sexes), do not know, or refuse." Rather than exclude respondents who reported that they did not know their sexual orientation ($N = 663$) as previous research has done, we include them in the analysis and examine how they differed from other groups.

Control Variables

We control for a number of important sociodemographic covariates, which might confound the relationship between sexual orientation and health, including age, household income, educational attainment, partnership status, and race. We also control for province because health care in Canada is provincially run. Age is coded as follows: 45–54, 55–64, 65–74, and 75 and older. Household income is captured as follows: \$19,999 or less, \$20,000–\$39,999, \$40,000–\$59,999, \$60,000–\$79,999, \$80,000–\$99,999, and \$100,000 or more. Educational attainment measures the respondents' highest level of completed education: less than high school, high school degree, some post-secondary, bachelor's degree, and advanced degree. Partnership is coded: married/common law, divorced/separated/widowed, and single. Race is as follows: white non-Aboriginal, non-white non-Aboriginal, and Aboriginal. For province of residence, we combine the Atlantic, Prairie provinces, and territories because of small sample sizes. Respondents with missing values on any of these sociodemographic control variables are included by recoding a missing category for each covariate.

Analytic Approach

We estimate multiple logistic regression models that predict odds of reporting fair/poor self-rated physical and mental health, stratifying models by sex and age group

(45–64 and ≥65). We present nested models, first including only sexual orientation and age, then adding household income, and last adding educational attainment, partnership status, race, and province. The second model highlights the importance of income because this has been shown to have a strong influence on an individual’s overall health (Link & Phelan, 1995) and because certain subgroups of sexual minorities tend to have lower household incomes, which are thought to lead to higher barriers to accessing health care services (Fredriksen-Goldsen, Kim, et al., 2013; Stinchcombe et al., 2018). Our multivariate tables include key coefficients, and full results are presented in Supplementary Appendix.

Results

Table 1 presents respondents’ sexual orientation in the analytic sample. Almost 97% of both male and female respondents are heterosexual. Among males, approximately 1.6% are gay, 0.8% are bisexual, and 0.8% do not know their sexual orientation. Among female respondents, approximately 1.37% report that they do not know their sexual orientation, 0.9% are lesbian, and about 0.9% are bisexual.

Table 2 presents weighted sample characteristics of men by sexual orientation. The highest proportion of those reporting good physical health were among heterosexual men (86.5%) and bisexual men (86.3%). However, only 83.5% of gay men and 75.9% of men who did not know their sexual orientation reported good health. All sexual minority groups were less likely to report good self-rated mental health than heterosexual men. Gay and bisexual men tend to be younger than heterosexual men, but men who did not know their sexual orientation are older on average. Heterosexual men also have higher incomes than all sexual minority groups, even though gay and bisexual men are the most likely to have a bachelor’s or advanced degree. Gay and bisexual men are also much less likely to be partnered, more likely to be white non-Aboriginal, and less likely to reside in the Prairie provinces. Men who reported that they did not know their sexual orientation have very low incomes and have the highest proportion of nonwhite non-Aboriginal respondents.

Sample characteristics of female respondents are given in Table 3. Heterosexual and lesbian women are the most likely to report good physical (85.6% and 88.8%) and mental health (93.5% and 93.3%). However, bisexual women and women who reported that they did not know their sexual orientation were much more likely to report fair/poor physical and mental health. Lesbians and bisexual women tend to be younger than heterosexual women, but women who did not know their sexual orientation tend to be older. Lesbian women are most likely to have high levels of household income and education, but bisexual women and women who did not know their sexual orientation report less income. Another similarity to men is that women who do not know their sexual orientation are more likely to be nonwhite non-Aboriginal.

Last, we show results predicting both fair/poor physical health and fair/poor mental health for men (Table 4) and women (Table 5). Our nested models are estimated on the whole sample first (age ≥45) and then middle-aged (45–64) and older adults (≥65) separately. Table 4 highlights similar odds of fair/poor physical health among heterosexual, gay, and bisexual men. The one group that differs in terms of physical health is those that report not knowing their sexual orientation. This group has 91% higher odds of being in fair/poor health compared with heterosexuals. Stratifying by age group shows that this poor health disadvantage of the “do not know” is driven by the group of older, rather than middle-aged adults.

The lower part of Table 4 examines fair/poor mental health among men. We find that gay men have more than twice the odds (OR = 2.23) of reporting fair/poor mental health compared with heterosexuals, controlling for age. The analysis by age group shows that this result is driven by poorer mental health among middle-aged adults, not older adults. When introducing household income as a control in the second model, this reduces the odds ratio; however, even when including all sociodemographic controls, gay middle-aged men still have much higher odds of reporting poor mental health (OR = 2.08). No significant differences were found for bisexual men and men who did not know their sexual orientation compared with heterosexuals.

Table 1. Respondents’ Sexual Orientation in Analytic Sample (Weighted Percentages and Frequencies), Ages ≥45

Sexual orientation	Men		Women	
	Weighted %	Frequency	Weighted %	Frequency
Heterosexual	96.81	26,470	96.89	31,952
Homosexual	1.63	446	0.89	294
Bisexual	0.78	214	0.85	280
Do not know	0.77	211	1.37	452
Total	100%	<i>n</i> = 27,341	100%	<i>n</i> = 32,978

Source: Canadian Community Health Survey 2015–2016.

Table 2. Sample Characteristics of Male Respondents by Sexual Orientation (Weighted Percentages)

	Heterosexual	Gay	Bisexual	Do not know	χ^2 test ^a
Self-rated physical health					*
Excellent/very good/good	86.52	83.47	86.27	75.88	
Fair/poor	13.48	16.53	13.73	24.12	
Self-rated mental health					**
Excellent/very good/good	94.25	87.94	89.90	90.67	
Fair/poor	5.75	12.06	10.10	9.33	
Age (years)					***
45–54	34.60	36.21	40.43	28.38	
55–64	33.34	40.26	21.90	26.89	
65–74	21.93	18.99	18.03	24.23	
≥75	10.13	4.54	19.63	20.49	
Household income					***
\$19,999 or less	5.54	10.47	13.30	17.74	
\$20,000–\$39,999	14.07	17.00	17.09	20.41	
\$40,000–\$59,999	15.26	18.36	23.46	22.33	
\$60,000–\$79,999	14.24	15.42	17.13	13.77	
\$80,000–\$99,999	11.69	9.09	5.59	7.93	
\$100,000 or more	39.20	29.66	23.43	17.82	
Education ^b					***
Less than high school	14.92	4.58	14.54	28.23	
High school only	21.95	21.45	18.23	23.32	
Some post-secondary	36.58	36.96	24.29	29.19	
Bachelor's degree	16.76	21.84	27.15	15.46	
Advanced degree	9.79	15.16	15.78	3.80	
Partnership ^b					***
Married/common-law	77.46	35.70	44.88	56.92	
Divorced/separated/widowed	13.25	13.00	21.72	20.31	
Single (never married)	9.29	51.30	33.40	22.77	
Race ^b					***
White non-Aboriginal	81.77	92.56	87.68	64.78	
Nonwhite non-Aboriginal	15.43	5.68	10.84	30.72	
Aboriginal	2.80	1.76	1.48	4.51	
Province of residence					***
Atlantic—NB, NL, NS, PEI	7.37	5.49	7.35	6.71	
Quebec	24.28	36.93	32.39	14.80	
Ontario	37.87	38.82	33.57	35.37	
Prairies—MB, SK, AB	16.75	4.66	12.03	20.95	
British Columbia	13.47	13.98	13.96	21.77	
Territories—YT, NT, NU	0.27	0.12	0.69	0.39	

Notes: ^aResults from Pearson χ^2 test. ^bMissing categories are omitted from descriptive tables due to Statistics Canada vetting rules but are included in models presented in Tables 4 and 5.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Canadian Community Health Survey 2015–2016.

Table 5 presents the multivariate results for women. We find that across both physical and mental health that there are no differences between lesbians and heterosexual women. We also find, however, that bisexual women have higher odds of fair/poor physical and mental health in the first model. Their odds of fair/poor physical health are partially explained by income and other controls for physical health and fully explained by income for mental health. For both measures of health, the health disadvantage of bisexual

women compared with heterosexuals is only found among middle-aged women, not older women. Women who did not know their sexual orientation have higher odds of fair/poor health for both measures in the first model. For this group, their lower incomes are an important factor in explaining these differences, as shown in the second models. It is interesting to note that the health disadvantage of “do not know” women is concentrated among older women for physical health and middle-aged women for mental health.

Table 3. Sample Characteristics of Female Respondents by Sexual Orientation (Weighted Percentages)

	Heterosexual	Lesbian	Bisexual	Do not know	χ^2 test ^a
Self-rated physical health					***
Excellent/very good/good	85.60	88.80	67.07	72.42	
Fair/poor	14.40	11.20	32.93	27.58	
Self-rated mental health					**
Excellent/very good/good	93.48	93.34	84.09	85.55	
Fair/poor	6.52	6.66	15.91	14.45	
Age (years)					***
45–54	33.22	43.13	35.60	15.82	
55–64	31.02	40.00	45.19	26.84	
65–74	22.72	12.45	10.64	23.57	
≥75	13.05	4.43	8.57	33.76	
Household income					***
\$19,999 or less	7.82	7.40	29.89	19.63	
\$20,000–\$39,999	18.19	10.16	17.40	20.62	
\$40,000–\$59,999	16.76	19.66	16.20	24.23	
\$60,000–\$79,999	14.84	15.70	9.67	6.82	
\$80,000–\$99,999	10.53	7.47	8.52	9.36	
\$100,000 or more	31.87	39.60	18.32	19.33	
Education ^b					***
Less than high school	15.56	12.59	28.06	33.48	
High school only	23.66	15.24	21.16	23.49	
Some post-secondary	36.69	39.08	29.70	26.34	
Bachelor's degree	16.40	16.71	10.82	14.08	
Advanced degree	7.68	16.38	10.27	2.61	
Partnership ^b					***
Married/common-law	64.99	54.56	39.77	52.18	
Divorced/separated/widowed	26.91	13.41	27.14	33.99	
Single (never married)	8.11	32.03	33.10	13.82	
Race ^b					***
White non-Aboriginal	83.20	90.01	87.58	62.33	
Nonwhite non-Aboriginal	13.85	8.84	6.95	34.20	
Aboriginal	2.95	1.15	5.47	3.46	
Province of residence					†
Atlantic—NB, NL, NS, PEI	7.68	4.24	7.30	5.11	
Quebec	24.18	30.70	23.89	16.13	
Ontario	38.60	42.03	38.97	38.47	
Prairies—MB, SK, AB	16.12	7.48	10.97	20.41	
British Columbia	13.20	15.40	18.50	19.41	
Territories—YT, NT, NU	0.22	0.16	0.37	0.47	

Notes: ^aResults from Pearson χ^2 test. ^bMissing categories are omitted from descriptive tables due to Statistics Canada vetting rules but are included in models presented in Tables 4 and 5.

† $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Canadian Community Health Survey 2015–2016.

Discussion

The Institute of Medicine and Healthy People 2020 recently highlighted the importance of studying potential health differences associated with the older sexual minority population, prioritized the need to address any health disparities associated with this stigmatized subpopulation, and called for more nationally representative population-based studies to collect data on this at-risk subpopulation (Institute of Medicine, 2011; U.S. Department of Health and Human Services, 2012). Canadian surveys have just

recently begun asking about sexual orientation in two large population health surveys among older adults.

We find that gay men and lesbian women have just as good physical health compared with heterosexuals, across all models and age groups. This finding is similar to other research in Canada (Brennan et al., 2010; Steele et al., 2009) and the United States (Conron et al., 2010), but differs from some other studies which report that gay men and lesbian women are more likely to report fair/poor physical health in England (Elliott et al., 2015), and lesbian

Table 4. Odds Ratios From Weighted Logistic Regression Models Predicting Fair/Poor Physical Health and Mental Health Among Men

	Ages ≥45			Ages 45–64			Ages ≥65		
	A	B	C	A	B	C	A	B	C
Fair/poor physical health									
Sexual orientation (heterosexual)									
Gay	1.32	1.10	1.20	1.39	1.04	1.13	1.15	1.13	1.34
Bisexual	1.00	0.79	0.87	1.24	0.81	0.94	0.74	0.70	0.77
Do not know	1.91**	1.40	1.20	1.50	0.91	0.73	2.33**	2.02*	1.81†
<i>n</i>	27,341	27,341	27,341	15,773	15,773	15,773	11,568	11,568	11,568
Fair/poor mental health									
Sexual orientation (heterosexual)									
Gay	2.23**	1.84*	1.77*	2.59**	2.01*	2.08*	0.89	0.88	0.72
Bisexual	1.82†	1.40	1.43	2.03†	1.34	1.50	1.41	1.44	1.25
Do not know	1.70	1.18	1.02	1.74	1.05	0.91	1.60	1.40	1.11
<i>n</i>	27,341	27,341	27,341	15,773	15,773	15,773	11,568	11,568	11,568

Notes: Controls in nested models are as follows: A: age; B: age, household income; C: age, household income, education, partnership, race, and province of residence.

† $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Canadian Community Health Survey 2015–2016.

Table 5. Odds Ratios From Weighted Logistic Regression Models Predicting Fair/Poor Physical Health and Mental Health Among Women

	Ages ≥45			Ages 45–64			Ages ≥65		
	A	B	C	A	B	C	A	B	C
Fair/poor physical health									
Sexual orientation (heterosexual)									
Lesbian	0.82	0.84	0.90	0.91	0.92	0.99	0.56	0.56	0.65
Bisexual	3.10**	2.07*	1.98*	3.73**	2.19*	2.05*	1.40	1.22	1.24
Do not know	1.94**	1.68†	1.49	1.99	1.74	1.64	1.89**	1.69*	1.45
<i>n</i>	32,978	32,978	32,978	17,636	17,636	17,636	15,342	15,342	15,342
Fair/poor mental health									
Sexual orientation (heterosexual)									
Lesbian	0.95	0.95	1.06	1.06	1.05	1.17	0.31	0.31	0.35
Bisexual	2.58**	1.71	1.54	2.68**	1.67	1.50	2.21	1.91	2.09
Do not know	2.68*	2.33*	1.83†	3.73*	3.37†	2.83†	1.65†	1.48	1.16
<i>n</i>	32,978	32,978	32,978	17,636	17,636	17,636	15,342	15,342	15,316

Notes: Controls in nested models are as follows: A: age; B: age, household income; C: age, household income, education, partnership, race, and province of residence.

† $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Canadian Community Health Survey 2015–2016.

women more likely to report fair/poor health in the United States (Gonzales, Przedworski, & Henning-Smith, 2016). The fact that we find no differences in physical health for men or women could be attributed to the universal health care system, which means that sexual minority adults, who tend to have lower household incomes, can overcome financial barriers in accessing health services, which could narrow physical health disparities.

We do, however, document a physical health disadvantage for bisexual women, but not men. The poorer health of bisexual women is consistent with findings from past

Canadian, English, and American studies (Conron et al., 2010; Elliott et al., 2015; Gonzales & Henning-Smith, 2017; Steele et al., 2009). We find that some of bisexual women's poor physical health is due to more disadvantaged socioeconomic circumstances; however, some of the disadvantage is unexplained by our models suggesting that minority stress theory and discrimination may play a role. Our analysis could not test these specific mechanisms.

Our analysis of physical health by sex and sexual orientation highlights that both gender and sexual orientation are important social determinants of health and each

must be considered separately (Gorman, Denney, Dowdy, & Medeiros, 2015). Many studies group bisexuals and gay/lesbians together, either as one bisexual group (men and women combined) or as bisexual men grouped with gay men, and bisexual women grouped with lesbian women. It may be that some research documenting health disadvantages among sexual minorities when all grouped together (e.g., Fredriksen-Goldsen, Kim, Shui, & Bryan, 2017; Hughes, 2018; Stinchcombe et al., 2018) are actually driven by the poorer health of bisexuals, and not that of gays and lesbians.

Our findings highlight that gay men have poorer mental health compared with their heterosexual counterparts but that the mental health of lesbians does not differ from heterosexuals. This concurs with recent Canadian research documenting no differences in self-rated mental health for lesbians and heterosexuals (Steele et al., 2009), but differs from Brennan and colleagues (2010) who find no differences in mental health for gay men. The mental health disadvantage among gay men could be explained by higher levels of stress associated with the HIV/AIDS epidemic and the fact that the male gay community disproportionately experienced loss within their social networks (Ingram, Jones, & Smith, 2001). On the other hand, lesbian women tend to have larger support networks compared with gay men (Erosheva, Kim, Emler, & Fredriksen-Goldsen, 2016), which can be protective for mental health through improved coping mechanisms and resiliency (Fredriksen-Goldsen, Emler, et al., 2013). We also find that bisexual women and men are more likely to report poor mental health and that this disadvantage is explained by the fact that they are economically disadvantaged.

Including respondents who did not know their sexual orientation in our analysis revealed that they are older, are less educated, have lower income, and are more likely to be nonwhite non-Aboriginal. Our multivariate models show a health disadvantage for “do not know” men for physical health and for women for both physical and mental health across some specifications and age groups. The disadvantage of “do not know” older adults are fully explained by covariates (at the $p < .05$ level) compared with heterosexual adults whereas the disadvantages that we document for gay men’s mental health and bisexual women’s physical health are not fully explained by covariates. This suggests that low socioeconomic status, rather than discrimination and stigma, is driving poor health among who did not know their sexual orientation, but discrimination and stigma appear to be plausible explanations for sexual minority groups.

Our analysis has several limitations. Our data do not allow us to capture several features of the health of sexual minorities. We cannot identify transgender older adults, a group that faces additional challenges compared with other sexual minorities including transphobia, cisnormativity, and identity erasure (Bauer et al., 2009; Fredriksen-Goldsen, Cook-Daniels, et al., 2013). Future

research should include transgender older adults to identify their unique health needs. There is also no variable in the CCHS for HIV/AIDS. Gay men comprise two thirds of older adults living with HIV/AIDS in Canada (Brennan, Emler, Brennenstuhl, & Rueda, 2013), and HIV/AIDS has been associated with worse mental health outcomes due to increased social isolation and discrimination (Emler, 2016). Another limitation is that data were not collected among older adults in long-term care, and therefore, it is unknown what the health of older sexual minorities is within an institutionalized setting. The exclusion of adults in long-term care could serve to reduce disparities of older sexual minorities because this would include older adults in the worst health. The fact that few disparities were found among older adults could also be due to small sample sizes in the oldest age group, so future research should attempt to test for disparities among older adults by including larger samples of this group and the inclusion of those in long-term care.

Despite limitations, our study provides the necessary groundwork for future studies, which should examine a range of health outcomes, health care utilization patterns, and health behaviors. Moving forward, it is imperative for the Canadian government to collect more population-based data among older sexual minorities to inform health policy and unique health needs.

Supplementary Material

Supplementary tables are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Author Contributions

G. Sivakumaran and R. Margolis planned the study and wrote the manuscript. G. Sivakumaran conducted the data analysis, and R. Margolis supervised the data analysis.

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Conflict of Interest

None reported.

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