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ORIGINAL ARTICLE

Inequities in depression within a population of sexual and gender minorities

Olivier Ferlatte[a], Travis Salway[b,c], Simon M. Rice[d], John L. Oliffe[a], Rod Knight[e,f] and John S. Ogrodniczuk[g]

[a]School of Nursing, University of British Columbia, Vancouver, Canada; [b]School of Population and Public Health, University of British Columbia, Vancouver, Canada; [c]British Columbia Centre for Disease Control, Vancouver, Canada; [d]Orygen, The National Centre of Excellence in Youth Mental Health, Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia; [e]British Columbia Centre on Substance Use, Vancouver, Canada; [f]Department of Medicine, University of British Columbia, Vancouver, Canada; [g]Department of Psychiatry, University of British Columbia, Vancouver, Canada

ABSTRACT

Background: Substantial evidence has demonstrated that sexual minorities (gay, lesbian, and bisexual people) and gender minorities (transgender and gender non-binary people) (SGM) experience poorer mental health than heterosexual and cisgender individuals. Meanwhile, less attention has been given to inequities within SGM populations.

Aims: This study investigated depression within a sample of Canadian SGM who took part in an online survey ($n = 2778$).

Methods: Multivariable regression was used to identify social characteristics associated with depression, as measured by the Patient Health Questionnaire (PHQ-9) ($p < 0.05$). The sample was then stratified by gender and sexual identity and the multivariable analysis was repeated for each stratum.

Results: PHQ-9 scores were associated with every social position investigated, with the largest coefficients observed for non-binary and transgender individuals and those with a lower level of educational attainment. In stratified analysis, statistically significant associations were observed for cisgender respondents identifying as bisexual, queer, or pansexual (relative to gay/lesbian) and for transgender women from ethnic minority groups or with lower income.

Conclusions: These results provide evidence of depression inequities within SGM along multiple social positions. Interventions to reduce depression should be prioritized for these sub-groups of SGM who experience the highest rates of depression.

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Introduction

Evidence indicates that sexual minorities (gay, lesbian, and bisexual people) and gender minorities (transgender and gender non-binary people) experience poorer mental health than heterosexual and cisgender counterparts. For example, studies have consistently shown that sexual minorities are at increased risk of depression, suicide, and substance use disorders (Hottes, Bogaert, Rhodes, Brennan & Gesink, 2016; King et al., 2008). Similar trends prevail among transgender individuals, with rates of mental health problems in this population far exceeding those in both cisgender heterosexual and sexual minority populations (Khobzi Rotondi, 2012). A Canadian study estimated the prevalence of depression among transgender women at 61% (Rotondi et al., 2011), while rates among heterosexual and sexual minority women have been estimated at 16% and 30%, respectively (Ross et al., 2018).

The leading theory to explain the mental health inequities experienced by sexual and gender minorities (SGM) is minority stress, which posits that prejudice, discrimination, and the constant threat of rejection across the life-course increases SGM's social vulnerability and likelihood of experiencing negative mental health outcomes vulnerabilities (Meyer, 2003). Another noteworthy framework to explain elevated mental health problems among this population is the integrative mediation framework (Hatzenbuehler, 2009), which also includes SGM specific stressors as per the minority stress theory (expectation of rejection, SGM-based discrimination, and internalized stigma). However, it also integrates how these stresses create elevations (relative to non-SGM individuals) in general psychological processes that increased risks of mental health difficulties (such as coping and emotion regulations difficulties) (Hatzenbuehler, 2009). Central to both, minority stress theory and integrative mediation framework, are the shared experiences of stigma by SGM that have profound impacts on their mental well-being.

Increasingly, the literature on SGM health is becoming populated with calls to expand the work on SGM health inequities beyond comparisons to heterosexual and cisgender populations to investigate inequities *within* SGM populations (Parent, DeBlaere, & Moradi, 2013). This is largely due to the growing recognition that SGM do not form a monolithic group, but rather represent a heterogeneous population that includes highly diverse gender, sexuality,

CONTACT Olivier Ferlatte olivier.ferlatte@bccsu.ubc.ca British Columbia Centre on Substance Use, 405-1045 Howe street, Vancouver, V6Z 2A9 Canada

class, and ethno-cultural positionalities. Within theoretical and empirical work in this area, intersectionality appears to be among the most promising perspectives to distil and interpret the distribution of health and illness *within* and *across* populations that are otherwise considered homogenous populations (Bowleg, 2012; Hankivsky, 2012), something that tends to frequently happen within research involving SGM populations (Bowleg, 2013). Intersectionality has a long history in Black feminist scholarships (Collins, 2009; Crenshaw, 1989) wherein social positions (e.g. sexuality, gender, class, and ethnicity) are understood as co-constructed, intersecting, and working together to shape individual and population social and health experiences and outcomes (Hankivsky, 2012; Hankivsky et al., 2014; McCall, 2005).

While several calls have been made to apply intersectionality to advance the understanding of SGM mental health inequities (Bowleg, 2013; Brennan et al., 2013; Ferlatte, Hottes, Trussler, & Marchand, 2014; Fish, 2008) (notably from the Institute of Medicine Task force on LGBT health) (Institute of Medicine, 2011), empirical applications remain scarce. Nevertheless, some noteworthy exceptions have emerged in recent years highlighting the potential contributions of this perspective to better understand mental health inequities experienced by SGM populations. For example, Budge, Thai, Tebbe, and Howard (2016) identified how mental health outcomes (e.g. anxiety) among American transgender individuals were distributed inequitably according to race and socio-economic status. More recently, a study by Ferlatte et al. (2018a) identified how Canadian gay and bisexual men with a lower educational attainment *and* a lower income are at significantly high risk of suicide, while being partnered with a man (versus a woman) increased suicide risk for bisexual men.

The aforementioned examples provide important beginnings to SGM health intersectionality scholarship, but additional empirical work is needed to validate the applicability of intersectionality to the study of SGM mental health. Advancing scholarship in this area will be critical to ensuring that SGM mental health promotion interventions and efforts reach and address the needs of those experiencing inequities. Therefore, the aim of the current study is to advance understandings of mental health inequities within and across populations of SGM. Specifically, the objective of this study is to identify how depression is distributed across gender, sexuality and other social positions in a large sample of Canadian SGM.

Materials and methods

Data for this study were derived from an online survey of Canadian SGM adults. Respondents were recruited through advertisements on social media sites (e.g. Facebook, Twitter) and through SGM community groups. Respondents were eligible to the study is they self-identified as a member of the SGM community, if they resided in Canada, if they were at least 18 years of age, and if they were able to comprehend and complete the questionnaire online in either French of English. The survey collected anonymous data on a broad set of constructs related to depression and suicide, including experiences, knowledge, attitudes, access to care and treatment, and interest in community mental health promotion. Data were collected from 2 November to 21 December 2017.

Measures

Depression was measured using the validated Patient Health Questionnaire-9 (PHQ-9) (Kroenke & Spitzer, 2002), a self-report scale including the nine major depressive symptoms specified by the DSM-5 (American Psychiatric Association, 2013). For each item of the PHQ-9, respondents rated the occurrence of a given symptom within the preceding two weeks on a four-point scale: not at all = 0, several days =1, more than half the days =2, and nearly every day =3, with a cumulative score ranging from 0 to 27. The PHQ-9 scores are interpreted as such: Scores 0–4 no or minimal depression, 5–9 mild depression, 10–14 moderate depression, 15–19 moderately severe depression, and 20–27 severe depression.

The investigation of differences across gender, sexuality identity, and other social positions were performed using the following self-reported demographics.

Gender identity was collected using two questions as recommended by Bauer et al. (2017) for capturing the experience of transgender and gender minorities. Respondents reported their sex assigned as birth (i.e. sex stated on birth certificate) as either male or female. Then respondents selected what best described their gender identity drawing from the following four options: (1) man, (2) woman, (3) non-binary, and (4) other. Six gender categories were derived from these two questions: (1) cisgender men (for those who selected male at birth and identified as a man), (2) cisgender women (for those who selected female at birth and identified as a woman), (3) transgender men (for those who selected female at birth and identified as a man), (4) transgender women (for those who selected male at birth and identified as a woman), (5) non-binary (regardless of sex assigned at birth), and (6) other (regardless of sex assigned at birth).

Respondents selected their *sexual identity* from the following options: lesbian, gay, bisexual, queer, asexual, pansexual, straight, and other. For the purpose of the current analyses, gay and lesbian were collapsed together. The straight category was collapsed with the other category due to low cell count ($n = 20$).

Age was recorded as a continuous variable, but for the purpose of the current analysis, the following categories were created: 18–19 years, 20–29 years, 30–39 years, 40–49 years old, and 50 years and over.

Highest level of educational attainment was examined using three groups: high school or less, college or some university, and university.

Respondents were asked to report their individual *income* before taxes and deductions in the past 12 months. Income

was examined using three groups: under CAD$20,000, between CAD$20,000 and 49,999, CAD$50,000, or more.

Three groups were created to examine *ethnicity*: white, Indigenous (Indigenous, Aboriginal, First Nations and Métis), and ethnic minorities (Black, Asian, Latino, or Middle Eastern). Those who selected "other" were omitted. Indigenous people were examined separately given Canada's historical legacy of colonization and related policies that have been linked to social marginalization and health inequities among Indigenous people (Anderson & Smylie, 2009).

Data analysis

The mean PHQ-9 score was calculated for each gender, sexual identity, and social category, as described above. Then, to explore multivariable relationships between depression and gender and sexual identity, and other social positions, a multivariable binary logistic regression was performed with PHQ-9 score of 15 and above (moderately severe and severe depression) as the outcome. Then, multiple linear regression was used with the PHQ-9 total score as the dependent variable. Because it was hypothesized that gender modified the associations between depression and sexuality and other social positions, multiple linear regression was stratified by gender identities. Stratification is a method used to explore the multiple effects of identities on health outcomes and to allow for the assessment of modification of associations (Szklo & Nieto, 2017). This approach has previously been used by intersectionality scholars to reveal intersecting relationships between social positions (Covarrubias, 2011; Ferlatte, Salway, Trussler, Oliffe, & Gilbert, 2018c). We present both standardized and unstandardized regression coefficients. Associations with $p < 0.05$ were interpreted as statistically significant. All analyses were completed using SPSS version 23 (SPSS Inc., Chicago, IL).

Ethics

Research ethics approval was granted by the Behavioural Research Ethics Board of the University of British Columbia (ref #H17-01592). Prior to initiating the online survey, participants were directed to an informed consent webpage that indicated that by submitting a completed questionnaire they were consenting to participation.

Results

A total of 2778 SGM individuals completed the survey, of which 64% identified as cisgender, 20.2% as gender non-binary, and 10.5% as transgender. A diversity of sexual identities were recruited including 37.1% identifying as gay or lesbian, 22.1% as bisexual, 17.5% as queer, 13.3% as pansexual, and 4.6% as asexual. The sample was also diverse in terms of age, income, educational attainment, and ethnicity (Table 1).

Table 1. Demographic characteristics of participants of a Canadian survey about sexual and gender minorities GM mental health ($N = 2778$), stratified by gender identities.

Variables	Cisgender men *n* (%)	Cisgender women *n* (%)	Transgender Men *n* (%)	Transgender women *n* (%)	Non-binary *n* (%)	Other *n* (%)	Total *n* (%)
	623 (22.4)	1157 (41.6)	209 (7.5)	82 (3.0)	561 (20.2)	146 (5.3)	2778 (100.0)
Sexual orientation							
Gay/Lesbian	516 (82.8)	359 (31.0)	28 (18.2)	24 (29.3)	72 (12.8)	23 (15.8)	1032 (37.1)
Bisexual	55 (8.8)	417 (36.0)	37 (17.7)	14 (17.1)	72 (12.8)	20 (13.7)	615 (22.1)
Queer	27 (4.3)	162 (14.0)	49 (23.4)	206 (36.7)	31 (21.2)	31 (21.2)	486 (17.5)
Asexual	4 (0.6)	44 (3.8)	18 (86)	4 (4.9)	48 (8.6)	15 (10.3)	133 (4.6)
Pansexual	14 (2.2)	148 (12.8)	43 (20.6)	17 (20.7)	116 (20.7)	31 (21.2)	369 (13.3)
Other	7 (1.1)	27 (2.3)	24 (11.5)	12 (14.6)	47 (8.4)	26 (17.8)	143 (5.1)
Age							
18–20	153 (8.5)	312 (27.0)	72 (34.6)	4 (4.9)	152 (27.1)	43 (29.5)	636 (22.9)
20–29	211 (34.0)	543 (47.0)	95 (45.7)	33 (40.2)	293 (52.3)	70 (47.9)	1245 (44.9)
30–39	109 (17.6)	187 (16.2)	29 (13.9)	14 (17.1)	86 (15.4)	24 (16.4)	449 (16.2)
40–49	72 (11.6)	52 (4.5)	7 (3.4)	15 (18.3)	22 (3.9)	8 (5.5)	176 (6.3)
50+	176 (28.3)	62 (5.4)	5 (2.4)	16 (19.5)	7 (0.7)	1 (0.7)	267 (9.6)
Education							
Some or completed high school	67 (10.8)	177 (15.3)	71 (34.0)	14 (17.1)	103 (19.4)	35 (24.0)	473 (17.0)
Some college or University	255 (40.9)	617 (953.3)	98 (46.9)	42 (51.2)	300 (53.3)	71 (48.6)	1383 (49.8)
University degree	358 (30.9)	300 (48.2)	38 (18.2)	25 (30.5)	148 (26.4)	38 (26.0)	907 (32.6)
Other/prefer not to say	1 (0.2)	5 (0.4)	2 (1.0)	1 (1.2)	4 (0.7)	2 (1.4)	15 (0.5)
Income, CAD							
Under 20,000	211 (33.9)	649 (56.1)	141 (67.5)	47 (57.3)	363 (64.7)	89 (61.0)	1500 (54.0)
20,000–49,999	195 (31.3)	307 (26.5)	37 (17.7)	22 (26.8)	120 (21.4)	33 (22.6)	714 (25.7)
50,000 or more	195 (31.3)	121 (10.5)	8 (3.8)	10 (12.2)	39 (7.0)	9 (6.2)	382 (13.8)
Prefer not to say	22 (3.5)	80 (6.9)	23 (11.0)	3 (3.7)	39 (7.0)	15 (10.3)	182 (6.6)
Ethnicity							
White	501 (80.4)	915 (79.1)	158 (75.6)	69 (84.1)	412 (73.4)	92 (63.0)	631 (22.7)
Indigenous	43 (6.9)	106 (9.2)	27 (12.9)	8 (9.8)	76 (13.5)	23 (15.8)	283 (10.2)
Asian	38 (6.1)	52 (4.5)	13 (6.2)1	0 (0.0)	39 (7.0)	15 (10.3)	157 (5.7)
Black	10 (1.6)	17 (1.5)	3 (1.4)	0 (0.0)	11 (2.0)	5 (3.4)	46 (1.7)
Middle-Eastern	5 (0.8)	17(1.5)	3 (1.4)	0 (0.0)	9 (1.6)	3 (2.1)	37 (1.3)
Latino	18 (2.9)	18 (91.6)	3 (1.4)	1 (1.2)	9 (1.6)	9 (6.2)	58 (2.1)
Other	9 (1.4)	19 (1.6)	0 (0.0)	4 (4.9)	7 (1.2)	3 (2.1)	42 (1.5)
Prefer not to say	1 (0.2)	9 (0.8)	1 (0.5)	0 (0.0)	5 (0.9)	0 (0.0)	16 (0.6)

Table 2. Depression score by demographic variables, as measured in a Canadian survey of sexual and gender minorities ($N = 2778$).

	PHQ 9 Score		PhQ-9 score for major depression (>14)		
Variables	Mean	Standard deviation	%	Unadjusted Odds ratio 95% CI	Adjusted odds ratio 95% CI
Gender					
Cisgender men	8.1284	6.76687	18.1	Referent	Referent
Cisgender women	11.9317	7.34962	36.0	2.53 (2.00–3.21)	1.29 (0.97–1.73)
Transgender men	14.5024	7.24312	49.8	4.47 (3.18–6.28)	1.72 (1.14–2.59)
Transgender women	12.6341	7.81501	40.2	3.04 (1.87–4.94)	2.01 (1.15–3.52)
Non-binary	15.0873	6.80608	55.3	5.57 (4.29–7.25)	2.51 (1.79–3.51)
Other	14.1370	7.36312	45.9	3.83 (2.61–5.62)	1.63 (1.02–2.61)
Sexual orientation					
Gay/Lesbian	9.6260	7.33285	25.6	Referent	Referent
Bisexual	12.9106	7.25592	42.1	2.11 (1.71–2.62)	1.39 (1.08–1.81)
Queer	13.1379	7.12304	42.2	2.12 (1.69–2.66)	1.19 (0.89–1.59)
Asexual	14.0602	7.53553	51.1	3.04 (2.11–4.40)	1.55 (1.00–2.40)
Pansexual	14.6477	7.24873	51.5	3.09 (2.41–3.96)	1.45 (1.07–1.96)
Other	13.4965	7.34260	39.9	1.93 (1.34–2.77)	0.92 (0.59–1.43)
Age					
18–20	15.1698	7.25461	56.9	Referent	Referent
20–29	12.4956	7.18873	38.8	0.48 (0.39–0.58)	0.75 (0.60–0.95)
30–39	10.8708	7.23806	30.1	0.33 (0.25–0.42)	0.77 (0.55–1.06)
40–49	9.1761	6.82581	19.9	0.19 (0.13–0.28)	0.45 (0.28–0.74)
50+	6.3745	6.30269	9.7	0.08 (0.05–0.13)	0.26 (0.15–0.44)
Education					
University degree	8.8567	6.73770	20.1	Referent	Referent
Some college or University	12.8713	7.22880	42.4	5.16 (4.05–6.59)	1.83 (1.45–2.31)
Some or completed high school	15.6660	7.54608	56.4	2.94 (2.42–3.57)	2.79 (2.10–3.76)
Income					
50,000 or more	7.1597	6.46883	13.9	Referent	Referent
20,000–49,999	10.3459	6.97738	27.2	2.32 (1.66–3.23)	1.33 (0.92–1.94)
Under 20,000	13.8100	7.31922	47.0	5.51 (4.05–7.49)	2.04 (1.40–2.96)
Ethnicity					
White	11.8197	7.48728	36.3	Referent	Referent
Indigenous	11.2824	7.54224	50.5	1.79 (1.40–2.30)	1.44 (1.09–1.91)
Ethnic minorities	14.3463	7.26110	32.8	0.86 (0.65–1.13)	0.87 (0.63–1.19)

Note. Adjusted odd ratios are adjusted for other socio-demographic display in the table.
CI: confidence interval.

The PHQ-9 demonstrated good internal consistency across the total sample ($\alpha = 0.921$). The total sample had a mean PHQ-9 score of 12.05 ($SD = 7.52$) with 37.5% of respondents scoring 15 or higher. Mean PHQ-9 scores varied by gender, sexuality and other social positions, with the highest means observed for non-binary individuals, asexual individuals, those ages 18–20, those with some high school education or who completed high school, those with an income under 20,000 CAD$, and ethnic minorities (Table 2). The unadjusted and adjusted odds ratios for PHQ score 15 and higher are presented in Table 2. While all variables were significant in the adjusted model, the largest differences were noted for transgender woman and non-binary individuals (in comparison with cisgender men), those with a high school education (in comparison to a university education), those with an income under 20,000 Canadian dollars (when compared to those with an income of 50,000+), and those 50+ years of age (relative to those 18–20 years).

PHQ-9 scores were also significantly associated with every social position investigated in multivariable linear regression (Table 3). The largest unstandardized coefficients were observed for age (those 50+ years as compared with those under 20 years), non-binary individuals and transgender men and women (relative to cisgender men), and those with some or completed high school education (relative to those with a university degree).

Table 3. Linear regression associations between PHQ9 – score and demographic variables, as measured in a Canadian survey of sexual and gender minorities ($N = 2778$).

Variables	*B*	SE *B*	*β*	*t*	*p*
Gender					
Cisgender men	Referent				
Cisgender women	1.25	0.39	.08	3.25	0.001
Transgender men	2.60	0.60	.09	4.37	0.000
Transgender women	2.70	0.81	.06	3.33	0.001
Non-binary	3.70	0.47	.20	7.81	0.000
Other	2.76	0.67	.08	4.10	0.000
Sexual orientation					
Gay/Lesbian	Referent				
Bisexual	1.38	0.38	.08	3.68	0.000
Queer	1.19	0.42	.06	2.82	0.005
Asexual	1.33	0.65	.04	2.05	0.040
Pansexual	1.90	0.45	.09	4.23	0.000
Other	1.01	0.64	.03	1.58	0.113
Age					
18–20	Referent				
20–29	−1.04	0.35	−.07	−2.95	0.003
30–39	−1.35	0.46	−.07	−2.90	0.004
40–49	−2.32	0.62	−.08	−3.72	0.000
50 +	−4.23	0.57	−.17	−7.48	0.000
Education					
University degree	Referent				
Some college or University	2.16	0.32	.14	6.84	0.000
Some or completed high school	4.34	0.42	.22	10.23	0.000
Income					
50,000 or more	Referent				
20,000–49,999	−0.16	0.39	−.01	−.38	0.705
Under 20,000	1.28	0.37	.08	3.43	0.001
Ethnicity					
White	Referent				
Indigenous	−0.57	0.44	−.02	−1.28	0.200
Ethnic Minority	1.05	0.43	.04	2.46	0.014

Table 4. Gender-stratified linear regression associations between PHQ9 score and demographic variables, as measured in a Canadian survey of LGBTQ adults ($N = 2778$).

Variables	Cisgender men *B* (*p* value)	Cisgender women *B* (*p* value)	Transgender Men *B* (*p* value)	Transgender women *B* (*p* value)	Non-binary *B* (*p* value)	Other *B* (*p* value)
Sexual orientation						
Gay/Lesbian	Referent	Referent	Referent	Referent	Referent	Referent
Bisexual	0.69 (0.000)	1.42 (0.000)	−0.01 (0.985)	−0.06 (0.896)	0.24 (0.227)	−0.04 (0.928)
Queer	0.55 (0.022)	0.21 (0.029)	−0.04 (0.895)	−0.68 (0.159)	0.20 (0.217)	0.13 (0.752)
Asexual	0.10 (0.873)	0.24 (0.257)	0.28 (0.450)	1.40 (0.048)	0.13 (0.570)	−0.26 (0.595)
Pansexual	0.71 (0.033)	0.42 (0.001)	0.36 (0.214)	−0.01 (0.987)	0.14 (0.433)	−0.18 (0.652)
Other	0.36 (0.461)	0.19 (0.461)	0.13 (0.702)	0.68 (0.157)	−0.08 (0.729)	0.11 (0.792)
Age						
18–20	Referent	Referent	Referent	Referent	Referent	Referent
20–29	−0.22 (0.089)	−0.08 (0.423)	−0.30 (0.178)	−1.18 (0.100)	−0.17 (0.174)	−0.37 (0.223)
30–39	−0.32 (0.150)	−0.10 (0.455)	−0.02 (0.924)	−1.59 (0.048)	−0.29 (0.110)	−0.32 (0.413)
40–49	−0.26 (0.279)	−0.34 (0.101)	−0.40 (0.456)	−1.86 (0.016)	−0.81 (0.005)	−1.23 (0.038)
50 +	−0.61 (0.003)	−1.04 (0.000)	−2.15 (0.001)	−2.29 (0.004)	−0.43 (0.370)	−2.29 (0.121)
Education						
University degree	Referent	Referent	Referent	Referent	Referent	Referent
Some college or University	0.41 (0.000)	0.42 (0.000)	−0.09 (0.760)	−0.44 (0.223)	0.52 (0.000)	0.67 (0.032)
Some or completed high school	0.59 (0.001)	0.77 (0.000)	0.43 (0.119)	0.16 (0.736)	0.98 (0.000)	0.59 (0.124)
Income						
50,000 or more	Referent	Referent	Referent	Referent	Referent	Referent
20,000–49,999	0.02 (0.896)	0.11 (0.354)	−0.00 (0.998)	0.58 (0.221)	−0.12 (0.520)	−0.47 (0.263)
Under 20,000	0.30 (0.025)	0.18 (0.124)	0.37 (0.162)	1.14 (0.014)	0.30 (0.065)	0.15 (0.684)
Ethnicity						
White	Referent	Referent	Referent	Referent	Referent	Referent
Indigenous	0.25 (0.229)	0.17 (0.214)	−0.09 (0.760)	0.10 (0.851)	0.31 (0.038)	−0.18 (0.602)
Ethnic minority	0.07 (0.655)	−0.09 (0.509)	0.43 (0.119)	3.53 (0.012)	−0.29 (0.092)	−0.31 (0.353)

Note. Unstandardized coefficients.

Moderation (i.e. effect modification) of associations between depression and socio-demographic characteristics across gender categories was evaluated by identifying associations that differed in magnitude or direction in stratified analysis (Table 4). With respect to sexual identity, associations were largest for non-monosexual identities (bisexual, queer, and pansexual), though these associations were attenuated among transgender and non-binary individuals. In addition, the association between asexuality and depression was greater (and statistically significant) among transgender women. With respect to age, a consistent gradient was observed, whereby depression was inversely associated with age across all six groups (i.e. no evidence for effect modification). Likewise, gradients – albeit slightly less consistent – were observed for income and educational attainment; one notable exception was the association between income <$20,000 CAD and depression, which was larger (and statistically significant) among transgender women. Finally, with respect to ethnicity, a large and statistically significant association was observed between ethnic minority identity and depression among transgender women but no other gender categories.

Discussion

The current study examined differences in depression symptoms across a large and diverse sample of Canadian SGM. Depression scores were associated with each demographic variable investigated; however, substantial differences were identified between gender identities, with transgender and non-binary individuals reporting higher scores of depression. These results are consistent with previous research (Hoffman, 2014; Ross et al., 2018), but provide new evidence of the elevated risk of depression for non-binary individuals. This study also found large differences in depression scores across categories of educational attainment, which highlights the importance of intersections of sexuality and social class, which remain poorly understood, as SGM research has mainly focused on middle-class SGM (Greene, 2003).

The intersectionality-informed analysis stratified by gender identities revealed complex patterns of depression. Among cisgender participants, large and statistically significant associations were observed for bisexual, queer and pansexual identities (as compared with the lesbian/gay group). By contrast, coefficients for bisexual, queer and pansexual identities among transgender and gender non-binary participants were smaller in magnitude and non-significant. This suggests that for transgender and non-binary individuals, their gender identity was potentially more salient than their sexual identity in shaping their experiences with depression. This finding likely relates to transgender people facing high levels of violence, stigma, and discrimination (Hoffman, 2014) amid the relatively recent implementation of legal protections in Canada.

Considering the associations between pansexual and queer identities and depression revealed in our analysis, these findings have implications for future population-based research that seeks to characterize depression in SGM populations. Specifically, these results highlight the importance of sexual identities that are afforded relatively less visibility than homosexuality and bisexuality. For example, while differences in mental health outcomes between gay/lesbian and bisexual individuals have been noted elsewhere (Ross et al., 2018), pansexual and queer identities are usually omitted from measures of sexual identity in public health research. While higher rates of depressions among bisexual have been explained by biphobia (Ross, Dobinson, & Eady, 2010) (i.e.

a theory that posits that bisexual individuals experience stigma from both "mainstream" society and the gay community), less is known about how and why inequities may be more pronounced among other identities, including pansexual and queer people. One hypothesis for the elevated rate of depression among pansexual and queer individuals may stem from experiences similar to bisexuals, such as discrimination, violence, invisibility, and lack of support for one's sexual identity (Ross, Dobinson, & Eady, 2010), though we suggest future empirical and theoretical work is merited in this area.

Our results also identify that depression is significantly correlated with ethnicity and income among transgender women. Conversely, ethnicity and income were not found to be significant for other gender identities (with the exception of a small effect size of income for cisgender men). These findings echo other reports which have found that transgender women of ethnic minority groups are at higher risk of adverse health outcomes (such as HIV and drug misuse) because of the intersections of gender and ethnic minority status (Garofalo, Deleon, Osmer, Doll, & Harper, 2006; Nemoto, Sausa, Operario, & Keatley, 2006). Potential explanations for these trends include the additional barriers that transgender women of color and/or who are economically challenged may face in accessing mental health services (Bradford, Reisner, Honnold, & Xavier, 2013; Nemoto, Operario, & Keatley, 2005). More so, transgender women of color and those living in poverty have been described elsewhere as being at high risk of violence and abuse, which are known risk factors for depression and mental health disorders (Lombardi, Wilchins, Priesing, & Malouf, 2002; Marcellin, Bauer, & Scheim, 2013).

Explanatory theories focused on the etiology of mental health inequities for SGM have previously focused on the social rejection, discrimination and stigmatization of SGM based on their gender and sexual identity (as per the Minority Stress Model) (Meyer, 2003; Plöderl et al., 2014). The findings presented here, however, provide rationale to expand the minority stress model to more fulsomely integrate intersectionality perspectives, an approach in which multiple dimensions of SGM are measured and assessed to identify how mental health outcomes are distributed inequitably.

The findings detailed in the current article also have policy and practice implications. First, health care providers need to be cued to the increased risk of depression among SGM, particularly among transgender and non-binary individuals. At the same time, health care providers should be cautioned to not overemphasize sexuality and gender identities at the expense of intersecting identities when evaluating and providing care to SGM, and to not assume the sole salience of gender and sexual identities. Rather, our results suggest that health care providers need to thoughtfully assess the relevance of all aspects of the person including their ethnicity and financial situation (among other aspects). An intersectional approach to health care entails discussions of identities together, as well as examining when some identities may be more salient than others and why this may be the case (Budge et al., 2016).

As it relates to health care policy, the inclusion of SGM experiences and perspectives in developing a mental health promotion strategy is the key. Health interventions and policy for SGM continue to overwhelmingly focus on gay men, and more specifically on gay men's sexual risk practices (Boehmer, 2002; Ferlatte, 2012; Coulter, Kenst, & Bowden, 2014). This focus tends to remain dominant despite the growing body of literature showing mental health inequities among all SGM (particularly transgender individuals) (Haas et al., 2010; Hoffman, 2014; Hottes, Bogaert, Rhodes, Brennan, & Gesink, 2016; King et al., 2008), as well as the strong relation between sexual risk and mental health among SGM (known as syndemics) (Ferlatte et al., 2018b; Herrick et al., 2013; Mimiaga et al., 2015; Stall et al., 2003). Moreover, when SGM are mentioned in policies they tend to be lumped into one group, which tends to erase the specific needs of some SGM, particularly Indigenous SGM and those from ethnic minority groups (Ferlatte, 2012). The findings in the current article highlight the limitation of "lumping" all SGM into a single group and to attend to intersectionality in policy development. Analyses informed by intersectionality – including the current analysis – have the potential to generate transformative insights and policy solutions by challenging approaches that position SGM as a monolithic group (Bowleg, 2013; Hankivsky, 2014; Purdie-Vaughns & Eibach, 2008). Indeed, by explicitly considering the intersecting and mutually constituted nature of sexuality, gender, class, and ethnicity, the current study identifies how depression is distributed *differentially* within and across genders, sexual identities, and other social positions.

Despite the strengths of this research, there are several limitations that need to be considered when interpreting the results. First, the data were drawn from a cross-sectional survey that used a convenience sampling frame; therefore, despite the large size of the sample, it is impossible to say to what extent this sample represents SGM in Canada. Second, despite efforts to target community groups from ethno-cultural communities, the sample was predominately Caucasian. As such, the study was unable to compare depression within minority ethnic groups. Third, sexual identity was measured by having respondents select a single identity, but it is plausible that many SGM embraced multiple sexual identities (e.g. one could identify both as queer and lesbian). Future studies should, therefore allow respondents to select multiple sexual identities to capture the complexity of how sexuality and sexual identity are experienced by SGM. Finally, the study assessed class by educational attainment and individual income. Considering the age of the respondents, many were potentially students and/or were still dependent on their parents. The study would have been strengthened by the inclusion of financial hardship measures.

In conclusion, this study advances knowledge of depression among SGM in Canada by asserting the importance of intersecting identities – particularly in relation to sexuality and gender –in shaping rates of depression. Within-group

diversity among SGM has received little research attention and as such our study addresses this significant gap, in turn suggesting the need for strategies to intervene with targeted services. However, further research is needed to explore the social contexts and factors that may further explain these within-group inequities. More so, urgently targeted intervention research is urgently needed to address the mental health of SGM.

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ORCID

Olivier Ferlatte http://orcid.org/0000-0003-2721-4757
Travis Salway http://orcid.org/0000-0002-5699-5444
Simon M. Rice http://orcid.org/0000-0003-4045-8553
John L. Oliffe http://orcid.org/0000-0001-9029-4003

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