Major Depression Among Young Men Who Have Sex with Men in Beirut, and Its Association with Structural and Sexual Minority-Related Stressors, and Social Support

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Abstract

Guided by the minority stress model, we assessed depression and its relationship to structural and sexual minority-related stressors and social support in a sample of 226 young (age 18–29 years) men who have sex with men in Beirut, Lebanon. The sample was recruited with long-chain peer referrals and administered a survey that included the PHQ-9 measure of depression. 16% had current major depression based on our PHQ-9 criteria, and 33% reported any lifetime history of suicidal ideation (including 8% who had made an attempt); 69% had experienced any sexual minority-related discrimination in the past year. In bivariate analysis, structural (unemployment, no legal resident status) and sexual minority-related (greater number of types of discrimination experienced, greater discomfort with one's sexual orientation) stressors were associated with

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major depression, as was lower social support. Discomfort with one's sexual orientation was the only correlate of major depression when controlling for other stressors, social support and socio-demographics. These findings highlight a high level of depression, and the potential for community building and social solidarity for mitigating the effects of stressors based in personal security, internalized stigma and discrimination.

Keywords

INTRODUCTION

High levels of depression have been found among men who have sex with men (MSM) in studies conducted across several global regions (Tomori et al, 2016; Hylton et al., 2017; Stahlman et al., 2015; Hidaka et al., 2014; Mao et al., 2009). Lack of uniformity in methods to measure depression, and the reliance on various self-report scales rather than diagnostic interviews, make it difficult to compare rates of depression across studies; nonetheless, rates of current major depression ranged from 11% to 39% using self-report scales in the research cited above.

Sexual minorities have been found to be at greater risk for mental health disorders, including depression and suicidality, compared to their heterosexual counterparts (King et al., 2009). The minority stress model, which is commonly used to understand this disparity, posits that mental health problems among sexual minorities often stem from stressors that include stigma and discrimination related to their sexual identity (Meyer, 2003), in addition to circumstantial contextual factors (e.g., socioeconomic stressors such as poverty, unemployment, security risks). MSM have high exposure to negative life experiences, including stigma and discrimination regarding their sexual identity from family and community, harassment and violence (Meyer, 2003), all of which impede psychological well-being and can render one vulnerable to depression (Bogart et al., 2011; Tao et al., 2017). The minority stress model also suggests that depression is a co-occurring condition with HIV risk-behaviors, constituting a "syndemic" that drives HIV risk and transmission among MSM (Stall, Friedman & Catania, 2008). Depression has been associated with reduced HIV protective behaviors, including more frequent condomless anal sex, lower testing rates, and reduced engagement in HIV care and treatment (Thomas et al., 2011; Mimiaga et al., 2013).

While depression rates may be high among MSM, most do not suffer from clinical depression, despite presumably relatively similar exposure to environmental stressors such as societal stigma and discrimination, and threats to sexual health through HIV transmission. The minority stress model posits that how someone copes with stress, and the social support they receive, are key factors that help to distinguish those who develop depression in response to stress, from those who are more resilient and maintain psychological well-being. Studies have found various aspects of social support and proactive coping to be associated

with lower odds of depression, while social isolation and avoidant coping are positively associated with depression (Mao et al., 2009; Stahlman et al., 2015).

We are not aware of any studies of depression among MSM in the Middle East or Muslim dominant countries, but high rates of depression would be expected given the high levels of societal stigma towards homosexuality in Lebanon and the larger region (Ilkkaracan, 2008). Compared to other parts of the Middle East, Lebanon and Beirut specifically, is more religiously and culturally diverse, its societal attitudes are generally more progressive, and the development of its gay community and civil society organizations servicing the gay community have generally thrived over the past decade. These factors may serve to dampen the impact of environmental stressors. This paper reports findings from a study of young MSM in Beirut in which we assessed rates of depression and factors that may either protect against or propel one to suffer from depression, with particular emphasis on factors informed by the minority stress model, including structural and sexual minority-related stressors, and social support. Our hypothesis is that depression is positively correlated with stressors and negatively correlated with social support.

METHODS

Study Design and Participant Recruitment

This study is an open trial of a community-based HIV prevention, sexual health promotion intervention that uses a longitudinal cohort to examine the intervention effects on the larger young MSM community. The baseline data from this cohort provide the data for this analysis. Recruitment of the cohort took place between July 2016 and March 2017 using long chain peer referral methods primarily, though other methods such as recruitment flyers, postings on social media and word of mouth were added near the end of recruitment in order to enable the study to reach its target sample. Eligibility criteria consisted of being biologically male and male-identified, age 18 to 29 years, fluent in English or Arabic, residing in greater Beirut, and having had oral or anal sex with a man in the past 12 months.

For the long chain peer referral methods, recruitment began with a small number of eligible persons designated as "seeds"; these seeds were identified through community organizations working with MSM and our community advisory board, and were purposively selected to be well-connected and to represent the diversity in the community. All participants, including seeds and those recruited through flyers, postings and word of mouth, received 3 recruitment coupons to recruit members of their social network, resulting in multiple waves of participants. Participants were instructed to give a coupon to eligible MSM peers who were interested in participating and to inform the recruit to call the study coordinator for coupon verification, eligibility screening, verbal consent procedures, and scheduling of an interview. The survey interview was administered at the project office, by either an MSM or female interviewer, depending on the preference of the participant. Participants were compensated $40 for completing the interview, as well as for each recruit ($10) (up to 3) who enrolled in the study. For seeds who recruited any peers, the average number of recruits was 2.0 and the average number of waves of recruitment (a seed recruiting a friend constitutes one wave; if that friend recruits a friend that would be a second wave) was 2.4 (maximum of 8).

Measures

The survey was administered in English or Arabic, depending on the preference of the participant, with computer-assisted interview software. The survey was developed in English and translated into Arabic using standard translation and back translation methods. Participants were given the option of completing the survey on their own or having the interviewer administer the survey; no statistics were collected, but the study interviewers reported that it was very rare (less than 5%) for a participant to choose to self-administer the survey.

Depression—Depression was assessed using the 9-item Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001). Each item of the PHQ-9 corresponds to the 9 symptoms assessed in the depression module of the Diagnostic Statistical Manual, Fifth Edition (American Psychiatric Association, 2013). The total score ranges from 0–27, as each item is scored on a 0 'never' to 3 'every day' scale of symptom frequency over the past two weeks. The first 2 items (depressed mood; loss of interest in activities that are normally enjoyable; PHQ-2) were asked of all participants, and PHQ-2 scores > 2 represent potential depression. Participants who scored at least a 2 'more than half the days' on one of these two items, was then administered the full 9-item scale. Although the PHQ-9 is an instrument used to screen for depression, unlike diagnostic interviews, a PHQ-9 total score > 9 has been empirically shown to correlate highly with clinical depression (Kroenke et al., 2001). A diagnosis of major depression requires that at least 5 of the 9 symptoms (including depressed mood and/or loss of interest) be present more than half the days in the past 2 weeks; this definition was used to determine the presence of current major depression using the PHQ-9.

Suicidal history—Using an item from the Suicidal Behaviors Questionnaire (Osman et al., 2001), participants were asked if they had ever thought of or attempted suicide. Response options consisted of 0 'Never', 1 'It was just a brief passing thought', 2 'I have had a plan at least once to kill myself but did not try to do it', 3 'I have had a plan at least once to kill myself and really wanted to die', 4 'I have attempted to kill myself but did not want to die', and 5 'I have attempted to kill myself and really hoped to die'.

Socio-demographic and background characteristics—These consisted of age, education level, employment, monthly income, religious affiliation, country of birth, legal status as a resident of Lebanon, sexual orientation, relationship status, and HIV status. For analysis, response categories were combined to create binary indicators for measures of education (at least some university education), monthly income (< $1000 USD; note that U.S. dollars is a regular currency in Lebanon), nationality (born in Lebanon), sexual orientation (self-identify as gay), and religious affiliation (Christian).

Stressors—*Sexual minority-related discrimination* was measured with the subscale of the Multiple Discriminations Scale (Bogart et al., 2011) that asks the respondent to indicate whether or not they experienced any of five types of discriminatory events (e.g., insulted or made fun of; denied or lost a job; physically assaulted) in the past year as a result of others thinking the respondent was gay or bisexual; the sum of types of discrimination experienced

was used in analyses. A binary variable was also derived to indicate whether any type of discrimination had been experienced.

Comfort with sexual identity was assessed with a single item in which participants were asked to rate their comfort from 1 'very comfortable' to 5 'very uncomfortable'. *Internalized homophobia* was assessed using the Internalized Homophobia Scale (Ross et al., 1996), which consists of 9 items (e.g., "Even if I could change my sexual orientation, I wouldn't") and response options ranging from 1 'strongly agree' to 5 'strongly disagree'; mean item score was calculated and higher scores represent greater homophobia. *Disclosure of sexual identity* was assessed with two items, one asked participants if at least one of their parents knew the respondent's sexual orientation, and one item asked if any family member knew their orientation.

Social support—Items from the Social Relationship Scale (O'Brien et al., 1993) were used to measure *social support*; respondents were asked about access to someone for emotional (to talk to about personal problems), caregiver (when sick or unable to care for self), and tangible (e.g., money, transport) support. Response options range from 1 'definitely not' to 5 'definitely yes', with a mean item calculated and higher scores representing greater support.

Data Analysis

Bivariate tests (chi-squared tests, two-tailed, independent t-tests) were used to examine associations between major depression and potential correlates including socio-demographics, stressors, and social support, as dictated by a conceptual framework that was guided by the minority stress model. We then used hierarchical regression analysis to examine the extent to which stressors (only those with significant bivariate associations with depression) and social support are independently associated with depression. First, a model was conducted with just the three socio-demographic covariates (age, any university education, relationship status) as independent variables with major depression as the dependent variable, to establish a baseline model. Next, we conducted three additional regression models that added (i) structural stressors (employment and legal status), (ii) sexual minority-related stressors (discrimination, discomfort with sexual identity), or (iii) social support, as independent variable(s) in separate domain-specific models. In a final model, we included all of the stressors and social support (in addition to the three socio-demographics) as independent variables in a single, full model.

To assess the model fit, we used several statistics. We report the p-value of a Wald F-test, which is a joint test of the regression coefficients in a model. If statistically significant, this suggests that the model fits. The quality of models was assessed using Nagelkerke-R^2, C-statistic and Akaike Information Criterion (AIC) (citation). The C-statistic is a measure of goodness of fit for a logistic regression model, and a value of .70 or above indicates a good model (Royston & Altman, 2010). The AIC is proportional to the log likelihood penalized by the number of model parameters, and used as a measure of the relative quality of statistical models (Lapidus, 2008). A smaller AIC statistic indicates a better fit, with a

reduction of 10 units or more which indicates significant improvement (Burnham & Anderson, 2004).

All of the logistic regression models described above included a cluster adjustment to account for dependence among persons recruited by the same individual (via long chain referral recruitment). We used the Taylor series (linearization) method for computing cluster-adjusted variances (Lohr, 2010). The cluster-adjusted regression analyses were conducted using SAS survey analysis procedures (SAS Institute, 2013).

RESULTS

Sample characteristics

A sample of 226 YMSM enrolled in the study. Table 1 lists the socio-demographic and background characteristics of the sample, as well as characteristics related to mental health, sexual minority-related stressors, and social support. Two-thirds (60.2%) were under age 25, nearly a half (45.6%) were attending university, and a quarter (24.6%) were in a committed relationship; 74.8% were born in Lebanon. The vast majority (82.3%) of the sample reported ever being tested for HIV, and 8 (3.5% of whole sample) reported being HIV-infected.

Current depression and history of suicidality.—All participants completed the first two items of the PHQ-9, with 92 (40.7%) reporting depressed mood or loss of interest on "more than half the days" over the past 2 weeks, and thus were administered the full 9-item PHQ-9. Among these 92, mean PHQ-9 score was 11.8 (SD=5.3), and 59 (26.1% of the whole sample) scored > 9, which represents clinical depression; 36 (15.9% of the total sample) scored at least 2 (more than half the days over the past 2 weeks) on 5 or more items and thus met criteria for our definition of major depression using the PHQ-9. In this subgroup of 92, the most commonly endorsed symptoms (score of 2 or greater) other than depressed mood (81.5%) and loss of interest (67.4%) were sleeping problems (60.9%), low energy (51.1%), loss of appetite or overeating (45.7%), and feeling bad about oneself (39.1%); 12.0% reported thinking that they would be better off dead on more than half the days of the past 2 weeks.

When asked about history of ideation and planning for suicide attempts, 75 (33.2%) reported any lifetime history of suicidal ideation, including 42 who only had brief passing thoughts about suicide and 33 (14.7% of the whole sample) who reported any lifetime history of having had a plan to attempt suicide (7 had a plan but never tried; 8 had a plan and really wanted to die, but never made the attempt; 8 made an actual attempt but didn't want to die; and 10 made an attempt and did want to die). Of the 75 who had any history of suicidal ideation, only 21 reported receiving any counseling support.

Stressors.—*Structural stressors* included unemployment (41.6%) and not having legal residency status (13.7%, including 8.8% who were refugees). *Sexual minority-related stressors* consisted of internalized stigma and discrimination. Just under a third (29.2%) were somewhat comfortable to very uncomfortable with their sexual identity. Most (69.0%) of the sample had experienced at least one type of sexual minority-related discrimination in the past year, with the median number of types of discrimination being 1 and the range being

0–7; the most common types of discrimination were receipt of hostility or coldness from strangers (38.2%) and being ignored, excluded or avoided by people close to the respondent (32.0%) because the respondent was believed to be gay or bisexual, but more violent (13.4% were physically assaulted by a stranger) and tangible (12.0% denied or lost a job) acts of discrimination were also reported.

Bivariate correlates of major depression

Table 2 lists the bivariate correlates of major depression. The structural stressors, being unemployed and having no legal resident status (as well as the related variable of not being Lebanese), were significant correlates of having a major depression. Among sexual minority-related stressors, greater number of different types of sexual minority-related discrimination experienced, and greater discomfort with one's sexual orientation, were associated with major depression. Social support was negatively correlated with major depression.

Multivariate correlates of major depression

We further examined the extent to which the stressors and social support are independently associated with depression in a hierarchical regression analysis in order to assess which constructs may have the greatest influence on psychological well-being (see Table 3). First, we conducted regression models that included the structural stressors (employment and legal status), sexual minority-related stressors (discrimination, discomfort with sexual identity), and social support in separate domain-specific models, controlling for basic socio-demographics (age, any university education, relationship status). In the model that included employment and legal status, legal status remained significantly correlated with depression, and 10.7% of the variance was accounted for. In the model that included discrimination and discomfort with sexual identity, both remained as independent correlates of depression, and 13.6% of the variance was accounted for. In the model with social support, it was significantly correlated with depression, and 6.8% of the variance was accounted for. With all stressors and the social support measure entered into a single model, the sole independent correlate of major depression was discomfort with one's sexual orientation and 18.3% of the variance was accounted for.

DISCUSSION

This study of young, mostly university-educated MSM living in greater Beirut, revealed a high rate of current major depression. Consistent with the minority stress model, depression was associated with stressors related to discrimination and internalized stigma, as well as structural stressors related to personal security, but also social support. Discomfort with one's sexual identity, or internalized stigma, was the strongest independent correlate of depression, after controlling for all other stressors, social support and basic socio-demographics. Greater access to mental health services is paramount for this population, along with community-based programs to foster peer support for coping with discrimination, stigma and the security challenges facing young MSM.

The high rates of major (16%) and clinical (26%) depression are similar to those found in studies of MSM outside the Middle East that also used self-report measures (Mao et al., 2009; Stahlman et al., 2015, Tomori et al., 2016; Secor et al., 2016); like our sample, these studies were conducted with general community samples of MSM, were not HIV specific, and thus most participants were HIV-negative. Although we used the self-report PHQ-9, not the gold standard structured clinical interview, the PHQ-9 asks about each of the 9 depressive symptoms present in the DSM-V depression diagnostic module, enabling us to apply the DSM-V criteria for defining major depression (except for the criterion related to functional impairment, which was not assessed in our survey). When depression goes untreated, suicide risks can emerge, particularly in highly stigmatized, vulnerable populations. MSM have been shown to be at high risk for suicide in other settings (Semlyen et al., 2008), and our own data revealed that a third had thought about suicide, and 8% had ever made an attempt to take their life.

Consistent with the minority stress model (Meyer, 2003) and other research with MSM (Hylton et al., 2017; Stahlman et al., 2015; Secor et al., 2016; Tomori et al., 2016), stressors related to being an oppressed sexual minority, including sexual minority-related discrimination and internalized stigma, were associated with depression. Over two-thirds of the sample had experienced some form of discrimination in the past year because someone thought they were gay or bisexual, including forms of physical violence and loss of job opportunities, as well as the more common verbal harassment and social exclusion. The majority of the sample self-identified as gay and reported being comfortable with their sexual identity; nonetheless, our multivariate analysis revealed that discomfort with one's sexual identity was the only stressor associated with depression after controlling for the other stressors and social support. This finding highlights the need for community events that promote self-affirmation and self-acceptance regarding one's sexual identity and behavior. Furthermore, comprehensive sexuality and gender education in schools could help sexual minorities develop a positive self-identity and limit internalized shame and suicidality.

Structural stressors, in the form of unemployment and not having legal residency status, were also associated with depression. Programs for fostering job skills and employment opportunities are needed, as unemployment levels for youth and young adults are high in Lebanon, and even those with employment are generally paid low wages (World Bank, 2018). Unemployment and economic challenges are known contributing factors to depression (Pakula et al., 2016; Mao et al., 2009), and depression can impair functioning and ability to work or seek employment. Unemployment can also indirectly influence depression by preventing young MSM from being able to move out of their family's home, which can impede their ability to express their sexuality and to form relationships, particularly if they have not come out to their family. Legal residency status has become an increasingly important factor in Lebanon in recent years, with nearly one-third of the current Lebanese population being a refugee (mostly from Syria) (McCarthy 2017). Advocacy for human rights and structural changes are needed for refugees and non-citizens who live with the ongoing stress of uncertain futures, difficulty obtaining stable work and housing, stigma and discrimination from the Lebanese community, and increased scrutiny and sometimes

harassment from the police (Sherlock, 2017); this stress is compounded for sexual minorities.

Social support was an independent correlate of depression when stressors were not accounted for, and when all the stressors were added to the model the sexual minority-related discrimination stressor was no longer significantly correlated with depression—this suggests the potential for social support to be acting as a moderator in this relationship, which we will be able to examine in a future analysis with our longitudinal data. As suggested by the minority stress model, social support is important for young MSM to cope with and manage the stress they experience. Social connectedness, sense of community and solidarity, and not feeling isolated in the face of societal stigma and discrimination, are likely key to sustaining psychological well-being among MSM (Mao et al., 2009; Stahlman et al., 2015). Unfortunately, our formative research in Beirut revealed that YMSM can be stigmatizing of one another as much as supportive, and that divisions, mistrust and judgmentalism challenge the development of solidarity and sense of "community" (Mutchler et al., 2018). These challenges stem in part from living in a context where the community is targeted structurally by the police and by laws that govern sexuality and identity, which contributes to some feeling unsafe to be around others who might "expose" them to the authorities.

Aside from the limitation related to the self-report measure of depression, a key limitation of this analysis is the cross-sectional nature of the data. The data provide evidence of association, but we cannot demonstrate or infer causation without longitudinal data. In order to demonstrate causation, we would need to show that the stressors were experienced prior to depression. The follow-up data from this study, which will extend to 30 months post baseline, will allow us to examine these potential causal pathways. Another limitation of our data is the representativeness of our sample. While long-chain peer referral recruitment is designed to penetrate all segments of a population, our sample lacked in representation of men who were less educated and not self-identified as gay; however, our sample had good diversity in terms of being well balanced on religious affiliation, and the inclusion of refugees.

CONCLUSIONS

These findings highlight the high rate of major depression in this sample of YMSM in Beirut, and the need for mental health support services as well as programs to foster positive, healthy self-identity, and a secure, safe environment for this population. Unfortunately, psychotherapy and professional mental health services in general are not widely available or too expensive for YMSM in Beirut, let alone outside the capital, and comprehensive sexuality education is relatively non-existent in the region. This reality, together with our findings about the influence of stressors and social support, suggests the need for programs developed by the gay community that can help fill this void. Programs need to bolster peer and community support and help young men to feel safe as they grow into their self-identity, which are key to coping with discrimination and gaining self-acceptance. An example of such a program is Mpowerment—a multi-level, evidence-based program for YMSM that focuses not only HIV prevention and sexual health, but also

building community and peer support and reducing internalized stigma (Kegeles, Hays & Coates, 1996). The implementation and evaluation of a culturally adapted Mpowerment is the primary focus of the larger study that produced this analysis; therefore, the longitudinal data from this cohort will enable us to examine whether levels of depression change in the context of the implementation of this type of program.

Acknowledgments

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Table 1.

Sample characteristics (N=226)

	Mean (SD)/%
Socio-demographics	
Mean (SD) age (years)	23.9 (3.1)
Education:	
Did not complete high school	4.9%
Completed high school	9.7%
Attended some university	50.0%
University degree	35.4%
Currently attending university	45.6%
Religious affiliation:	
Christian	24.0%
Muslim	38.0%
Other	28.1%
Atheist	10.0%
Low monthly income (< $1000 USD)	70.3%
In a committed relationship	24.6%
Born in Lebanon	74.8%
Self-identified sexual identity:	
Gay/homosexual	82.9%
Bisexual	11.7%
Heterosexual	1.4%
Other	4.1%
Self-report as HIV-positive	3.5%
Mental health	
Screened positive for potential depression (PHQ-2 > 2)	19.9%
Met criteria for Major Depression	15.9%
Any history of suicidal ideation	33.3%
Any history of having a plan to attempt suicide	14.7%
Structural stressors	
Currently employed	58.4%
Legal residency status in Lebanon	86.3%
Sexual minority-related stressors	
Mean (SD) level of discomfort with one's sexual orientation	1.46 (0.87)
Mean (SD) internalized homonegativity	1.48 (0.68)
Any experience of sexual minority-related discrimination in past year	69.0%
Experienced the following in past year because someone thought you were gay:	
Ignored by a school/university professor	8.8%
Bullied at school/university	14.2%

	Mean (SD)/%
Ignored, excluded, or avoided by people close to you	32.0%
Denied a job or lost a job	12.0%
Treated with hostility or coldness by strangers	38.2%
Physically assaulted by strangers	13.4%
Someone insulted or made fun of you	51.1%
Mean (SD) number of types of sexual minority-related discrimination experienced in past year	1.69 (1.65)
Family member(s) knows respondent is MSM	73.1%
Parent(s) knows respondent is MSM	42.9%
Mean (SD) social support	4.34 (0.96)

SD = standard deviation

Table 2.

Bivariate correlates of major depression

	Meets criteria for major depression			
	No (n=190)	Yes (n=36)	t/χ^2	p
Socio-demographics				
Age [M(SD)]	23.8 (3.0)	24.4 (3.3)	−1.09	.279
Any university education	87.4%	75.0%	3.71	.054
In a relationship	25.0%	22.2%	0.13	.723
Born in Lebanon	77.9%	58.3%	6.14	**.013**
Monthly income < $1000	69.4%	75.5%	0.46	.498
Christian	25.3%	17.1%	1.07	.302
Self-identify as gay	84.0%	77.1%	1.16	.561
Structural stressors				
Employed	61.6%	41.7%	4.94	**.026**
Has legal status in Lebanon	90.0%	66.7%	13.92	**.000**
Sexual minority-related stressors				
Any experience of discrimination	66.8%	80.6%	2.66	.103
Sum of # of types of discrimination experienced [M(SD)]	1.58 (1.62)	2.28 (1.70)	−2.36	**.019**
Internalized homophobia [M(SD)]	1.48 (0.67)	1.49 (0.74)	−0.07	.944
Comfort with sexual identity [M(SD)]	1.37 (0.74)	1.94 (1.29)	−2.61	**.013**
Parents knows MSM status	41.8%	48.5%	0.50	.478
Family knows MSM status	72.8%	74.3%	0.32	.858
Social support [M(SD)]	4.42 (0.90)	3.92 (1.17)	2.39	**.021**

M = mean; SD = standard deviation; n = sample size

Table 3.

Hierarchical regression using logistic models to examine stressors and social support as correlates of major depression

	Major Depression diagnosis			
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Employment	0.51 (0.23, 1.14)	---	---	0.61 (0.26, 1.43)
Legal resident status	**0.31 (0.10, 0.91)**	---	---	0.46 (0.14, 1.50)
Number of types of sexual minority-related discrimination	---	**1.26 (1.01, 1.58)**	---	1.19 (0.95, 1.50)
Discomfort with one's sexual identity	---	**1.76 (1.24, 2.50)**	---	**1.60 (1.12, 2.30)**
Social support	---	---	**0.66 (0.47, 0.94)**	0.80 (0.54, 1.19)
Covariates				
Age	1.03 (0.90, 1.17)	1.06 (0.94, 1.20)	1.04 (0.92, 1.18)	1.05 (0.91, 1.22)
Any university education	0.81 (0.35, 1.86)	0.55 (0.25, 1.24)	0.64 (0.28, 1.45)	0.97 (0.34, 2.77)
In a committed relationship	0.63 (0.27, 1.48)	0.79 (0.34, 1.84)	0.84 (0.38, 1.86)	0.75 (0.31, 1.81)
% variance accounted for (Nagelkerke R^2)	10.7%	13.6%	6.8%	18.3%
Model fit statistics				
C statistic	.675	.703	.657	.762
AIC (akin to likelihood)	195.0	190.9	198.4	190.1
Wald F test (p value)	.041	.018	.110	.048

OR = Odds Ratio; CI = confidence interval