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Prevalence, sociodemographic correlates and DSM-5 substance use disorders and other psychiatric disorders among sexual minorities in the United States

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Abstract

Purpose: The purpose of this study was to present current nationally representative data on the prevalences, sociodemographic correlates and risk of DSM-5 substance use disorders and other psychiatric disorders among sexual minorities (SMs) relative to heterosexuals, and among SMs by gender.

Methods: Data were derived from the 2012–2013 National Epidemiologic Survey on Alcohol and Related Conditions-III.

Results: In the general noninstitutionalized population, 1.5%, 1.3% and 0.5% of individuals self-identified as gay/lesbian, bisexual and not sure sexual orientations. Men were more likely to report gay/lesbian orientation than women (1.8% vs. 1.2%). Women were more likely than men to report bisexual (1.8% vs. 0.8%) and not sure (0.6% vs. 0.4%) sexual orientations. Sociodemographic characteristics varied across sexual orientation and gender. Relative to heterosexuals, disparities in substance use and psychiatric disorders were found across sexual orientations, especially among bisexual women. Greater rates of specific psychiatric disorders were also demonstrated by women reporting bisexual and not sure orientations relative to lesbian women, with fewer differences in rates of psychopathology among SM men.

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Contributions

All authors have approved the final article. Drs. Saha and Pickering conducted the statistical analyses. Drs. Ruan, Chou, Zhang and Jung verified the analyses. Dr. Kerridge prepared the first draft of the manuscript and all authors reviewed subsequent revisions of the manuscript. All authors contributed to the design and conceptualization of the study. Dr. Hasin also substantially contributed to the revisions of the revised manuscript.

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Conflict of interest

No conflict declared.

Conclusions: Despite growing acceptance of SMs and SM rights over the past decade, substantial mental health disparities exist among these subgroups of the U.S. noninstitutionalized population, especially among bisexual women. More research is needed to understand these mental health disparities, while considering nuances of multiple intersecting minority identities and unique contextual factors.

Findings: underscore the importance of advancing future population-based research that includes detailed information on the health and well-being of SMs in the United States.

Keywords

Sexual minorities; Substance use disorders; Psychiatric disorders; Gay/lesbian; Bisexual; Disparities

1. Introduction

The U.S. Department of Health and Human Services' Healthy People 2020 Initiative includes the goal of improving the health, safety and well-being of SMs (U.S. Department of Health and Human Services, 2011). Further, in reviewing health disparities and their determinants among sexual minorities (SMs; i.e., those identifying as gay, lesbian, and bisexual and not sure about their sexual orientation), the National Institute of Medicine (2011) has called for prioritizing research on SM health in nationally representative data.

Concerns about the health and well-being of SMs was based, in part, on earlier research showing that SMs were at greater risk of psychiatric disorders, and especially substance use disorders, compared with their heterosexual counterparts (Herek and Garnets, 2007; King et al., 2008; Ploderl and Tremblay, 2015). Prior studies derived from national surveys using Diagnostic and Statistical Manual of Mental Disorders (DSM)-based diagnostic criteria show elevated rates of tobacco, alcohol and drug use disorders, and major mood, anxiety and personality disorders among adults identifying with SM orientations relative to heterosexuals (Bolton and Sareen, 2011; Bostwick et al., 2010; Cochran and Mays, 2000a,b, 2009; Cochran et al., 2007; Drabble et al., 2005; Gattis et al., 2012; Gilman et al., 2001; Green and Feinstein, 2012; Lee et al., 2015; McCabe et al., 2009; Mereish et al., 2015). In general, rates of most of these disorders were found to be greater among bisexual men and women relative to gay/lesbian men and women and greater among SM men than women, except for alcohol and drug use disorders in which prevalence was greater among SM women than men.

Although U.S. general population surveys that have measured SM status and substance use and psychiatric disorders have substantially contributed to our knowledge of mental health disparities among lesbians, gays, bisexuals, and those not sure about their orientation, these studies are now over a decade old. Much has changed over the past decade with regard to equal rights among SMs, all of which may have influenced the relationships between SM orientation and psychopathology found in prior research, attributed largely to discrimination and stigma associated with SM status (Allport, 1954; Link and Phelan, 2001). Between 2003 and 2013, support for marriage equality, same-sex couples as parents, equality of legal rights between SMs and heterosexual couples, and overall acceptance of SM orientation

substantially increased (Pew Research Center, 2013a,b), along with the passage of antidiscrimination and nondiscrimination health insurance and housing laws, and the extension of states permitting same-sex marriage (Movement Advancement Project, 2015). Other progress in equal rights among SMs has included increases in SMs in public service and increased public visibility of SMs among sports and business leaders (Movement Advancement Project, 2015). While a 2013 national survey of SMs showed that the majority felt significance progress had been made toward social acceptance (Pew Research Center, 2013a,b), participants continued to feel stigmatized in many ways by society, discriminated against by being targets of physical assaults, threats, slurs and jokes, rejection by family and friends, and discrimination in places of worship, other public places and in employment.

Accordingly, the objective of this study is to present current nationally representative data on the prevalence, sociodemographic correlates and risk of DSM-5 substance use disorders and psychiatric disorders (American Psychiatric Association, 2013) among SMs relative to heterosexuals, and also among SMs by gender, using data derived from the 2012–2013 National Institute on Alcohol Abuse and Alcoholism's (NIAAA) National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III) (Grant et al., 2014). Stigmatization, victimization and discrimination have long been considered major drivers of mental health disparities among SMs (Crocker, 1999; Meyer, 2003). Therefore, despite growing societal acceptance of SM orientation and increased equality among SMs (Pew Research Center, 2013a,b), given that the majority of SMs continue to report experiences of stigmatization and discrimination (Movement Advancement Project, 2015), we predicted that substantial mental health disparities would remain among SMs relative to heterosexuals in the United States. The large sample size of the NESARC-III ($n = 36,309$) facilitated the examination of mental health disparities among SM subgroups relative to heterosexuals, and between gays/lesbians, bisexuals, and individuals who were not sure about their sexual orientation, overall and by gender.

2. Methods

2.1. Sample

NESARC-III's target population was the U.S. noninstitutionalized adult population, including residents of selected group quarters. As detailed elsewhere (Grant et al., 2014), probability sampling was used to select respondents. Primary sampling units were counties or groups of contiguous counties, secondary sampling units (SSUs) comprised groups of Census-defined blocks, and tertiary sample units were household within SSUs. Eligible adults within sampled households were randomly selected. Hispanics, Blacks, and Asians were oversampled; in households with 4 eligible minority persons, two respondents were selected ($n = 1661$). Total sample size was 36,309. The screener- and person-level response rates were 72.0% and 84.0% yielding a total response rate of 60.1%, comparable to most current U.S. national surveys (Centers for Disease Control and Prevention, 2012; Substance Abuse and Mental Health Services Administration, 2013).

Data were adjusted for oversampling and nonresponse, then weighted to represent the U.S. civilian population based on the 2012 American Community Survey (Bureau of the Census, 2013). Weighting adjustments compensated adequately for nonresponse (Grant et al.,

2015a). When participants were compared with the total eligible sample, including nonrespondents, no significant differences were found in the percentages of Hispanic, black, or Asian respondents, population density, vacancy rate, proportion of the population in group quarters, or proportion of renters at the segment level. At the individual level, we found no differences in Hispanic ethnicity between respondents and the total eligible sample. Respondents included a slightly higher percentage of men (48.1% vs. 46.2%), a greater percentage of those aged 60 to 69 years (13.7% vs. 12.6%), and smaller percentages of those aged 40 to 49 years (18.1% vs. 18.3%) and 30 to 39 years (16.7% vs. 17.4%) than in the eligible sample.

Respondents gave informed consent and received \$90.00 for survey participation. Protocols, including informed consent procedures, were approved by National Institutes of Health and Westat Institutional Review Boards.

2.2. Assessments

The diagnostic interview was the NIAAA Alcohol Use Disorder and Associated Disabilities Interview Schedule-5 (AUDADIS-5), designed to measure DSM-5 alcohol (AUD), nicotine (NUD), and other drug use disorders (DUDs), and selected mood, anxiety, trauma-related, and personality disorders (PDs; Grant et al., 2011).

2.3. Sexual minorities

Respondents were shown a card during the interview and asked which of the categories best described them: (1) heterosexual (straight); (2) gay or lesbian; (3) bisexual; or (4) not sure. The bisexual category included those respondents who self-identified as bisexual and the gay/lesbian category included those respondents who self-identified as gay/lesbian. Respondents who self-identified as not sure were analyzed separately. All “refused” responses to the sexual orientation question (n = 314) were coded as missing.

2.4. Psychopathology

Psychiatric disorders examined in this study included all disorders assessed in the NESARC-III with adequate prevalence for analysis. Substance use disorders included DSM-5 AUD, NUD, and other DUDs (including sedative/tranquilizer, cannabis, amphetamine, cocaine, nonheroin opioid, heroin, hallucinogen, club drug, solvent/inhalant and other drug use disorders). Twelvemonth DUD diagnoses were aggregated to yield diagnoses of any 12-month DUD. Consistent with DSM-5, 12-month AUD, NUD and DUD diagnoses required 2 of 11 criteria arising from use of the same substance in the past year. Prior-to-the-past-year diagnoses required 2 of 11 criteria arising from use of the same substance in any single year. Past year and prior-to-the-past-year diagnoses were combined to form lifetime diagnoses.

Test-retest reliabilities of DSM-5 AUD ($\kappa = 0.60, 0.62$), NUD ($\kappa = 0.50, 0.87$) and other DUD diagnoses ($\kappa = 0.40, 0.54$) were fair to substantial and higher for their dimensional scale counterparts (intraclass correlation coefficient (ICC) = 0.45–0.85) in a large general population sample (Grant et al., 2015b). Procedural validity of AUDADIS-5 diagnoses was assessed through blind clinical reappraisals using the clinician-administered,

semi-structured Psychiatric Research Interview for Substance and Mental Disorders, DSM-5 version (PRISM-5) (Hasin et al., 2011). AUDADIS-5 and PRISM-5 concordance on AUD, NUD and other DUD diagnoses and dimensional scales was moderate to substantial ($\kappa = 0.35\text{--}0.72$; ICCs = 0.38–0.92) (Hasin et al., 2015a).

DSM-5 mood disorders assessed in the NESARC-III included 12-month and lifetime major depressive disorder (MDD), bipolar I disorder and persistent depressive disorder. Anxiety disorders included panic, agoraphobia, and generalized anxiety disorder (GAD), and social and specific phobias. Posttraumatic stress disorder (PTSD) was also assessed. PTSD diagnoses generally followed the DSM-5 definition but criteria D and E more strictly required 3 positive, rather than 2 positive subcriteria to be met. All mood and anxiety diagnoses excluded substance- and medical illness-induced cases. Lifetime PDs included borderline and schizotypal personality disorders (PDs) and antisocial personality disorder (ASPD). Psychometric properties of these psychiatric disorders are described in detail elsewhere (Hasin et al., 2015b).

2.5. Statistical analysis

Weighted frequencies and cross-tabulations across sociodemographic characteristics were computed for SM subgroups defined separately as gay/lesbian, bisexual and not sure sexual orientations for the overall sample and among men and women. Adjusted odds ratios (ORs) derived from multiple logistic regression indicated associations between gay/lesbian, bisexual and not sure orientations and each sociodemographic characteristic controlling for all others. These characteristics were selected to retain comparability with control variables used in other studies that have examined mental health disparities among SMs. Logistic regression analyses of SM status and 12-month and lifetime psychiatric disorders (using heterosexuals as the reference group) for the overall sample and by gender were adjusted for these sociodemographic characteristics. Multivariate logistic regression analyses, controlling for sociodemographic characteristics, were used to compare the rates of psychiatric disorders among SMs to one another separately for men and women. All analyses utilized SUDAAN software that accounts for the NESARC-III's complex survey design (Research Triangle Institute, 2012).

3. Results

3.1. Prevalence/sociodemographic characteristics

In this study, 1.5%, 1.3% and 0.5% of respondents reported gay/lesbian, bisexual, and not sure sexual orientations (Table 1). Men were more likely to report gay/lesbian sexual orientation than women (1.8% vs. 1.2%) whereas women were more likely than men to report bisexual (1.8% vs. 0.8%) and not sure (0.6% vs. 0.4%) sexual orientations. Gay/lesbian respondents were more likely to be 45-to-64 years-old, never married and to reside in urban areas, but less likely to be Asian/Pacific Islander, have high school or lower education and reside in the Midwest. Bisexual respondents were more likely to be younger than 65 years-old, never or previously married and among those with incomes of less than \$35,000.00, but less likely to be Hispanic or Asian/Pacific Islander. Respondents identifying

with not sure sexual orientation were more likely to be never married, have less than high school education and incomes less than \$20,000.00.

Gay men were more likely to report never being married but less likely to be Black, Asian/Pacific Islander or Hispanic, 18–29 years-old, and have a high school or lower education (Table 2). In contrast, bisexual men were more likely to be 30–64 years-old, never or previously married with annual incomes less than \$35,000.00, but less likely to have a high school education. Men reporting not sure sexual identity were more likely to be Hispanic, never married and to reside in the Midwest.

Lesbian women were more likely to be never married and reside in urban areas, but less likely to be Asian/Pacific Islander, have less than a high school education, have annual incomes between \$20,000.00–\$34,999.00, and to reside in the Midwest. Bisexual women were more likely to be under the age of 65 years, never or previously married, have incomes less than \$20,000.00, and reside in urban areas, but less likely to be Asian/Pacific Islander or Hispanic. Respondents reporting not sure sexual orientation were more likely to be never married, have less than high school education, and income less than \$20,000.00.

3.2. Psychiatric disorders: SMs vs. heterosexuals

Elevated rates of 12-month and lifetime AUD, NUD, MDD, persistent depressive disorder, panic disorder, agoraphobia, social phobia, GAD, PTSD and borderline and schizotypal PDs were observed among gays/lesbians relative to their heterosexual counterparts (Table 3). Elevated rates of all 12-month and lifetime substance use and psychiatric disorders assessed were found among bisexuals compared with heterosexuals except for persistent depression, specific phobia and GAD relative to heterosexual women.

The odds of 12-month AUD, MDD, persistent depressive disorder, panic disorder, agoraphobia, social phobia, GAD, PTSD and borderline and schizotypal PDs were greater among gay men than heterosexual men (Table 4). Among bisexual men, the odds of 12-month NUD, MDD, persistent depressive disorder, social phobia, GAD, PTSD and schizotypal, borderline and antisocial PDs were greater than among heterosexual men. The odds of 12-month agoraphobia, GAD, PTSD and schizotypal PD were greater among men reporting not sure sexual orientation relative to heterosexual men. The odds of 12-month AUD, DUD, NUD, persistent depression, panic disorder, ASPD and borderline and schizotypal PDs were greater among lesbian women than heterosexual women. Bisexual women had greater rates of all 12-month substance use and psychiatric disorders assessed. Women reporting not sure sexual orientation had greater odds of all 12-month substance use and psychiatric disorders relative to heterosexual women, except for persistent depressive disorder and specific phobia.

Gay men had greater odds of all lifetime substance use and psychiatric disorders except for DUD, bipolar I disorder, specific phobia and ASPD (Table 5). Similarly, bisexual men had greater odds of all lifetime substance use and psychiatric disorders except for bipolar I disorder, panic disorder and specific phobia than heterosexual men. The odds of lifetime MDD, GAD, PTSD and schizotypal PD were greater among men reporting not sure sexual orientation relative to heterosexual men. The odds of all lifetime substance use disorders,

MDD, persistent depressive disorder, panic disorder, agoraphobia, PTSD and antisocial, borderline and schizotypal PDs were greater among lesbian women compared with heterosexual women. Bisexual women demonstrated greater odds of all substance use and psychiatric disorders relative to their heterosexual counterparts. Women reporting not sure sexual orientation also had greater odds of all lifetime substance use and psychiatric disorders except for persistent depressive disorder, and GAD relative to heterosexual women.

3.3. Psychiatric disorders among SMs

Bisexual men had greater odds of lifetime ASPD and schizotypal PD relative to gay men. The odds of 12-month bipolar I disorder was greater among women reporting not sure orientation and the odds of lifetime bipolar I disorder were greater among women reporting bisexual or not sure orientations compared with lesbian women. Women reporting bisexual or not sure orientation had greater odds of borderline and schizotypal PDs than lesbian women (Table 6). The odds of ASPD and schizotypal PDs were greater among bisexual than gay man regardless of timeframe. Rates of borderline and schizotypal PDs were greater among bisexual women and those with not sure of their sexual orientations related to lesbian women, regardless of timeframe.

4. Discussion

In this national adult sample, 1.5%, 1.3% and 0.5% of individuals self-identified as gay/lesbian, bisexual and not sure sexual orientations. These percentages are considerably greater than those reported in the 2004–2005 NESARC for gays/lesbians, (0.7%) bisexuals (0.5%), but not for not sure (0.4%) sexual orientations (Grant et al., 2005). Prevalence increases in gay/lesbian and bisexual orientations may be due to increased disclosure of SM status as the result of increased acceptance of SMs and progress in equal rights among SMs in a number of areas over the last decade. Men were more likely than women to report gay/lesbian orientation (1.8% vs. 1.2%) whereas women were more likely than men to report bisexual (1.8% vs. 0.8%) and not sure (0.6% vs. 0.4%) sexual orientations. The 2011–2013 National Survey of Family Growth (NSFG) also found a greater prevalence of gay/lesbian orientation among men (1.9%) than women (1.3%), and greater bisexual orientation among women (5.5%) than men (2.0%) aged 18–44 years (Copen et al., 2016). In contrast, the 2013 National Health Interview Survey found a similar prevalence of gay/lesbian orientation (1.8% vs. 1.5%) and bisexual orientation (0.4% vs. 0.9%) among men and women (Ward et al., 2014), 18 years and older. Differences in the rates of reported sexual orientation overall and by gender between these surveys may be attributed, in part, to having different question wording, that is, having a “not sure” response category in the Wave 2 NESARC and NESARC-III, a “something else” and “don’t know” category in the NHIS and a single “don’t know” category in the NSFG. Also, NHIS excluded individuals who responded don’t know to the sexual orientation question, while the NSFG combined don’t know and refused categories. The importance of examining health disparities among respondents self-identifying as not sure or questioning sexual orientation in future research is supported by the results of this study that found substantial mental health disparities in this SM subgroup.

Sociodemographic characteristics varied across sexual orientation and among men and women. Some SM subgroups were more likely than heterosexuals to report minority race-ethnic status (i.e., men reporting not sure sexual orientation) or more likely to report lower education and income (i.e., women reporting not sure sexual orientation). These findings underscore the need to examine mental and other health disparities among SMs individuals with multiple marginalized identities (e.g., race-ethnicity, income, education). Such sexual minorities may have different risk and protective factors for substance use and psychiatric disorders than those who identify primarily with one marginalized identity (Bostwick et al., 2010; Herek and Garnets, 2007; King et al., 2008). Further, research is needed within the intersectionality framework that can be used to conceptualize how multiple social identities among SMs intersect at the individual level and interact with one another within varying contexts (Hsieh and Ruther, 2015; Mereish and Bradford, 2014; Seng et al., 2012).

Notably, mental health disparities among SM subgroups in this study were observed after adjustment for several indicators of socioeconomic status, including education, income, marital status, in addition to race-ethnicity. Consistent with prior research (Blosnich et al., 2013; Johnson et al., 2016; Lee et al., 2009) showing greater tobacco use among SMs than heterosexuals, rates of DSM-5 NUD were greater among all SM subgroups except gay men and men reporting not sure sexual orientation. Possible explanations for the development of tobacco use and NUD among SMs include initiation of smoking and development of NUD due to violence, stress and discrimination (Hatzenbuehler, 2009; Hatzenbuehler et al., 2013; Meyer 1995; Rosario et al., 2011), internalized homophobia (Blosnich et al., 2013), reactions to disclosure of sexual orientation (Rosario et al., 2011), and targeted marketing by the tobacco industry (Dilley et al., 2008; Smith and Malone, 2003; Smith et al., 2008). Efforts to address disparities in NUD will require a better understanding of risk factors unique to SMs and risk factors experienced at higher levels among SM populations.

Although prior studies showed increased rates of AUD and DUDs among SMs than heterosexuals (Gattis et al., 2012; Gilman et al., 2001; Lee et al., 2015), few examined rates separately among gays/lesbians, bisexuals, and those self-identifying with not sure sexual orientation, and by gender (Green and Feinstein, 2012; Lee et al., 2015). Such disaggregation revealed differential patterns of AUD and DUDs among SM subgroups across gender. Men typically have greater rates of AUD and DUD than women in the general population (Compton et al., 2007; Grant et al., 2004, 2015b; Hasin et al., 2007), however, these gender differences were generally not found among SMs. Only lesbian, bisexual women and women reporting not sure sexual orientation had elevated rates of both AUD and DUD, relative to heterosexuals. Gay and bisexual men had greater rates of lifetime AUD and DUD, but 12-month rates of AUD were only greater among gay men than heterosexual men. Men reporting not sure sexual orientation only had elevated rates of lifetime DUD relative to their heterosexual counterparts. These findings are generally consistent with results of most earlier studies that found slightly higher rates of alcohol and drug dependence among SM women than men, but at variance with those that found greater rates of AUD and DUD among individuals with bisexual compared with gay/lesbian sexual orientation (Herek and Garnets, 2007; King et al., 2008; Ploderl and Tremblay, 2015). Elevated rates of AUD and DUDs among SMs may be attributed, in part, to minority stressors (e.g., internalized heteronegativity, rejection sensitivity) leading to substance use as a coping strategy,

increasing the likelihood of developing substance use disorders over time (Hatzenbuehler, 2009). Further, nonconformity to traditional female roles may explain the slightly heightened risk of AUD and DUDs among SM women (McCabe et al., 2009), in addition to heightened stress associated with multiple minority statuses (Hsieh and Ruther, 2015; Mereish and Bradford, 2014; Seng et al., 2012).

Differences in psychiatric comorbidity among SM subgroups in this study suggest differential influences of contextual factors among the groups, including social networks, sociodemographic characteristics, expectations of rejection, internalized homophobia, minority statuses and stress processes such as prejudice, violence and discrimination (Crocker, 1999; Link and Phelan, 2001; Meyer, 2003). In particular, the finding that bisexual identity among women was strongly and consistently associated with heightened risk of substance use, mood, anxiety, PTSD and PDs that are often comorbid with substance use disorders generally (Grant et al., 2015a,b), differs from prior research that found such an orientation effect among both bisexual men and women (National Institute of Medicine, 2011; Herekand Garnets, 2007; King et al., 2008; Ploderl and Tremblay, 2015). Consistent with these results comparing SMs to heterosexuals, women reporting bisexual and not sure orientations demonstrated greater rates of bipolar I, PTSD and borderline and schizotypal PDs than lesbian women, with fewer differences in psychopathology shown among SM men. Women who identify with bisexual and not sure orientations may experience unique stigma and discrimination arising from pervasive stereotypes and negative attitudes about bisexuality and questioning sexuality not only among the dominant heterosexual group but among gays and lesbians (Bostwick et al., 2010; King et al., 2008). More research is needed to understand these mental health disparities among women identifying with bisexual and not sure orientations, while considering the nuances of multiple intersecting minority identities and interactions with contextual factors.

This study provides strong evidence of increased risk of substance use and psychiatric disorders among gay/lesbian and bisexual men and women, and men and women reporting not sure sexual orientation relative to their heterosexual counterparts, with unprecedented heightened risk among bisexual women. Despite growing acceptance of SMs and SM rights over the past decade, health disparities in substance use disorders and psychiatric disorders persist among SMs. Race-ethnicity and socioeconomic characteristics also varied across SM subgroups defined by sexual orientation and gender. Understanding how gender, race-ethnic and socioeconomic risk factors interact with sexual orientation to increase risk of substance use and psychiatric disorders across and within subgroups of SMs is a key area for future research. Meyer's (2003) minority stress and similar theories (Allport, 1954; Crocker, 1999; Link and Phelan, 2001; Stryker and Statham, 1985) and inter-sectionality frameworks (Hsieh and Ruther, 2015; Mereish and Bradford, 2014; Seng et al., 2012) could provide a multidisciplinary framework for future understanding of how discrimination and stigma operate as stressors that, in turn, contribute to increased prevalence of substance use and psychiatric disorders among SM subgroups of the population. The NESARC-III survey contains numerous variables that can serve as building blocks for such theories, including measures of sexual orientation discrimination, perceived and structural social support, stressful life events, and numerous adverse childhood events.

Our study has several strengths, including the use of a large national survey with reliable and valid diagnostic measures, and sample size sufficient to examine subgroups of SMs. However, limitations are noted. The NESARC-III was cross-sectional, precluding examination of stability of substance use and psychiatric disorders among SMs over time. Because of reluctance to disclose SM status and lack of coverage in NESARC-III of some subgroups of the U.S. population (e.g., the homeless, some individuals in treatment), the true prevalence of SMs and the magnitude of the mental health burden among them may be underestimated. Further, that women reporting not sure sexual orientation uniquely were found to have lower education and income relative to heterosexuals, underscoring the need for further study on the unique stigma and discrimination experienced by this SM subgroup as the result of multiple minority statuses. With the exception of men reporting not sure sexual orientation, SM subgroups did not differ from heterosexuals with regard to race-ethnic minority status, and in some instances were less likely to belong to minority race-ethnic subgroups. Whether these findings reflect race-ethnic composition of SMs or differential disclosure of SM status among race-ethnic subgroups is an important question for future research. The high prevalence of some psychiatric disorder among SMs shown in this study also highlights the need to examine comorbidity in future studies in this area.

In summary, mental health disparities among and within subgroups of SMs in the United States is a significant public health concern warranting future epidemiologic research to inform prevention and intervention efforts. Findings underscore the importance of advancing population-based research that includes detailed information on the health and well-being of SMs.

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Table 1

Prevalences and Adjusted Odds Ratios (AORs)^{a,b} of Sexual Orientation by Sociodemographic Characteristics.

Sociodemographic Characteristic	Gay/Lesbian (n = 586)		Bisexual (n = 566)		Not Sure (n = 199)	
	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Total	1.5 (0.08)	—	1.3 (0.08)	—	0.5 (0.04)	—
Sex						
Men	1.8 (0.13)	1.3 (1.10–1.64)	0.8 (0.08)	0.4 (0.32–0.53)	0.4 (0.05)	0.6 (0.45–0.94)
Women	1.2 (0.09)	1.0 (reference)	1.8 (0.12)	1.0 (reference)	0.6 (0.07)	1.0 (reference)
Race-ethnicity						
White	1.5 (0.10)	1.0 (reference)	1.3 (0.10)	1.0 (reference)	0.4 (0.05)	1.0 (reference)
Black	1.6 (0.19)	0.7 (0.55–1.00)	1.8 (0.22)	0.8 (0.59–1.10)	0.5 (0.09)	0.7 (0.42–1.08)
Native American	1.3 (0.55)	0.9 (0.36–2.03)	2.6 (0.86)	1.4 (0.73–2.81)	0.8 (0.52)	1.3 (0.35–4.92)
Asian/Pacific Islander	0.7 (0.21)	0.3 (0.17–0.59)	0.6 (0.21)	0.4 (0.17–0.71)	0.7 (0.24)	1.3 (0.59–3.01)
Hispanic	1.5 (0.17)	0.9 (0.68–1.11)	1.3 (0.14)	0.6 (0.45–0.78)	0.6 (0.08)	0.9 (0.57–1.30)
Age, y						
18–29	2.0 (0.17)	0.8 (0.48–1.25)	3.2 (0.25)	11.2 (6.25–20.02)	0.8 (0.14)	0.8 (0.39–1.74)
30–44	1.6 (0.18)	1.3 (0.80–2.17)	1.5 (0.15)	7.6 (4.34–13.40)	0.4 (0.08)	0.8 (0.39–1.70)
45–64	1.5 (0.13)	1.7 (1.07–2.63)	0.7 (0.08)	3.5 (2.02–6.17)	0.4 (0.07)	1.0 (0.57–1.84)
65	0.7 (0.14)	1.0 (reference)	0.2 (0.06)	1.0 (reference)	0.5 (0.10)	1.0 (reference)
Marital status						
Married/cohabiting	0.8 (0.08)	1.0 (reference)	0.7 (0.07)	1.0 (reference)	0.3 (0.04)	1.0 (reference)
Widowed/divorced/separated	0.8 (0.12)	1.2 (0.80–1.72)	1.2 (0.15)	1.7 (1.19–2.35)	0.5 (0.08)	1.1 (0.65–1.72)
Never married	3.9 (0.25)	7.3 (5.43–9.81)	3.1 (0.24)	2.2 (1.66–2.99)	1.1 (0.14)	3.3 (1.91–5.73)
Education						
Less than high school	0.7 (0.13)	0.4 (0.28–0.60)	1.6 (0.22)	1.2 (0.87–1.60)	0.9 (0.18)	1.8 (1.05–3.03)
High school	1.3 (0.15)	0.7 (0.54–0.93)	1.3 (0.14)	0.9 (0.74–1.21)	0.6 (0.10)	1.3 (0.83–1.94)
Some college or higher	1.7 (0.11)	1.0 (reference)	1.3 (0.09)	1.0 (reference)	0.4 (0.04)	1.0 (reference)
Family income, \$						
0–19,999	1.7 (0.19)	1.0 (0.73–1.34)	2.4 (0.22)	2.2 (1.49–3.39)	1.1 (0.14)	2.5 (1.34–4.62)
20,000–34,999	1.3 (0.16)	0.8 (0.60–1.16)	1.5 (0.14)	1.7 (1.11–2.66)	0.4 (0.07)	0.9 (0.49–1.72)
35,000–69,999	1.5 (0.16)	1.0 (0.76–1.40)	1.1 (0.12)	1.4 (0.88–2.06)	0.3 (0.06)	0.9 (0.46–1.62)

Sociodemographic Characteristic	Gay/Lesbian (n = 586)		Bisexual (n = 566)		Not Sure (n = 199)	
	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
70000	1.4 (0.15)	1.0 (reference)	0.7 (0.11)	1.0 (reference)	0.3 (0.06)	1.0 (reference)
Urbanicity						
Urban	1.7 (0.10)	1.6 (1.19–2.28)	1.5 (0.09)	1.4 (0.87–2.19)	0.5 (0.05)	1.5 (0.90–2.50)
Rural	0.8 (0.12)	1.0 (reference)	0.9 (0.19)	1.0 (reference)	0.3 (0.07)	1.0 (reference)
Region						
Northeast	2.0 (0.25)	1.1 (0.76–1.50)	1.6 (0.19)	1.1 (0.80–1.51)	0.5 (0.10)	0.8 (0.47–1.41)
Midwest	1.0 (0.15)	0.6 (0.41–0.83)	1.4 (0.17)	0.9 (0.67–1.28)	0.5 (0.07)	0.9 (0.53–1.42)
South	1.3 (0.11)	0.8 (0.60–1.03)	1.2 (0.14)	0.8 (0.56–1.07)	0.4 (0.07)	0.7 (0.42–1.20)
West	1.7 (0.19)	1.0 (reference)	1.4 (0.14)	1.0 (reference)	0.6 (0.11)	1.0 (reference)

^a Adjusted for sociodemographic characteristics.

^b Significant (p < 0.05) odds ratios appear in bold font.

Table 2

Prevalences and Adjusted Odds Ratios (AORs)^{a,b} of Sexual Orientation by Sociodemographic Characteristics Among Men and Women.

Sociodemographic Characteristic	Men			Women								
	Gay		Bisexual		Not Sure		Lesbian		Bisexual		Not Sure	
	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Total	1.8(0.13)	-	0.8(0.08)	-	0.4(0.05)	-	1.2(0.09)	-	1.8(0.12)	-	0.6(0.07)	-
Race/ethnicity												
White	2.0(0.17)	1.0 (reference)	0.8(0.11)	1.0 (reference)	0.3(0.06)	1.0 (reference)	1.1(0.11)	1.0 (reference)	1.8(0.16)	1.0 (reference)	0.6(0.09)	1.0 (reference)
Black	1.6(0.25)	0.6 (0.40-0.84)	0.8(0.29)	0.7(0.32-1.63)	0.3(0.09)	0.5(0.23-1.23)	1.6(0.26)	1.1(0.73-1.65)	2.6(0.30)	0.8(0.60-1.15)	0.7(0.14)	0.7(0.42-1.30)
Native American	0.8(0.63)	0.4(0.07-1.72)	0.5(0.29)	0.5(0.13-1.56)	0.3(0.30)	0.6(0.07-4.57)	1.7(0.83)	1.5(0.52-4.52)	4.0(1.39)	1.7(0.83-3.67)	1.1(0.85)	1.6(0.34-7.36)
Asian/Pacific Islander	1.0(0.36)	0.4 (0.18-0.82)	0.8(0.37)	0.8(0.29-2.32)	0.8(0.44)	2.6(0.72-9.35)	0.4(0.17)	0.2 (0.08-0.60)	0.5(0.21)	0.2 (0.07-0.45)	0.7(0.27)	0.8(0.32-2.15)
Hispanic	1.4(0.24)	0.7 (0.46-0.92)	0.8(0.17)	0.7(0.41-1.26)	0.6(0.11)	1.8 (1.07-3.14)	1.7(0.27)	1.3(0.88-1.87)	1.7(0.22)	0.5 (0.40-0.75)	0.5(0.14)	0.5(0.25-1.03)
Age, y												
18-29	2.1(0.24)	0.4 (0.21-0.72)	1.3(0.21)	2.3(0.91-6.04)	0.5(0.12)	0.4(0.11-1.56)	2.0(0.23)	1.8(0.84-4.08)	5.0(0.45)	24.0 (10.69-53.73)	1.1(0.24)	1.3(0.54-2.96)
30-44	2.0(0.29)	1.0(0.56-1.88)	0.9(0.23)	3.2 (1.25-8.15)	0.3(0.10)	0.7(0.19-2.32)	1.1(0.19)	1.7(0.71-3.85)	2.0(0.23)	12.8 (5.86-28.08)	0.5(0.12)	1.0(0.44-2.06)
45-64	1.8(0.21)	1.4(0.79-2.50)	0.6(0.11)	2.2 (1.01-4.99)	0.5(0.11)	1.5(0.59-3.57)	1.1(0.14)	1.9(0.87-4.28)	0.7(0.11)	4.7 (2.06-10.52)	0.4(0.09)	0.8(0.38-1.63)
65	0.9(0.24)	1.0 (reference)	0.3(0.10)	1.0 (reference)	0.3(0.11)	1.0 (reference)	0.5(0.17)	1.0 (reference)	0.2(0.08)	1.0 (reference)	0.6(0.15)	1.0 (reference)
Marital status												
Married/cohabiting	0.8(0.12)	1.0 (reference)	0.4(0.09)	1.0 (reference)	0.2(0.07)	1.0 (reference)	0.8(0.11)	1.0 (reference)	1.1(0.13)	1.0 (reference)	0.4(0.06)	1.0 (reference)
Widowed/divorced/separated	0.9(0.23)	1.2(0.65-2.27)	1.1(0.23)	2.5 (1.44-4.30)	0.3(0.09)	1.1(0.46-2.80)	0.8(0.15)	1.2(0.68-2.00)	1.2(0.19)	1.6 (1.02-2.38)	0.5(0.11)	1.0(0.60-1.83)
Never married	4.8(0.37)	11.9 (7.33-19.37)	1.6(0.19)	3.2 (1.66-6.02)	0.9(0.14)	5.1 (1.78-14.7)	2.8(0.28)	3.7 (2.44-5.60)	4.8(0.44)	2.0 (1.42-2.90)	1.3(0.24)	2.5 (1.37-4.64)
Education												
Less than high school	0.8(0.20)	0.4 (0.22-0.64)	1.0(0.24)	0.9(0.50-1.63)	0.7(0.23)	1.2(0.50-2.99)	0.5(0.15)	0.4 (0.25-0.81)	2.1(0.35)	1.3(0.94-1.84)	1.1(0.24)	2.3 (1.30-4.20)
High school	1.3(0.19)	0.6 (0.39-0.79)	0.6(0.15)	0.6 (0.36-0.94)	0.4(0.11)	0.8(0.40-1.71)	1.2(0.21)	1.0(0.68-1.43)	2.0(0.22)	1.2(0.88-1.55)	0.7(0.17)	1.7(0.97-2.89)
Some college or higher	2.2(0.19)	1.0 (reference)	0.9(0.11)	1.0 (reference)	0.4(0.07)	1.0 (reference)	1.3(0.12)	1.0 (reference)	1.7(0.15)	1.0 (reference)	0.4(0.07)	1.0 (reference)
Family income, \$												
0-19,999	2.3(0.28)	1.1(0.67-1.78)	1.4(0.25)	3.0 (1.50-5.90)	1.0(0.24)	2.8(0.98-8.18)	1.3(0.19)	0.8(0.53-1.22)	3.1(0.28)	2.0 (1.20-3.18)	1.2(0.18)	2.2 (1.14-4.30)
20,000-34,999	1.8(0.29)	1.0(0.60-1.70)	1.2(0.23)	2.9 (1.35-6.13)	0.3(0.09)	1.1(0.47-2.44)	0.9(0.14)	0.6 (0.41-0.92)	1.8(0.24)	1.4(0.82-2.35)	0.4(0.09)	0.8(0.38-1.78)
35,000-69,999	1.8(0.22)	1.1(0.69-1.67)	0.7(0.15)	1.8(0.86-3.88)	0.2(0.08)	0.8(0.32-2.10)	1.3(0.22)	1.0(0.63-1.44)	1.5(0.21)	1.2(0.71-1.98)	0.4(0.10)	0.9(0.40-1.93)
70000	1.5(0.24)	1.0 (reference)	0.4(0.10)	1.0 (reference)	0.2(0.07)	1.0 (reference)	1.2(0.16)	1.0 (reference)	1.1(0.19)	1.0 (reference)	0.4(0.09)	1.0 (reference)
Urbanicity												

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Sociodemographic Characteristic	Men						Women					
	Gay			Not Sure			Lesbian			Not Sure		
	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Urban	2.0(0.16)	1.5(0.85–2.54)	0.9(0.09)	1.1(0.47–2.70)	0.4(0.06)	1.1(0.52–2.28)	1.4(0.11)	2.0 (1.07–3.59)	2.0(0.14)	1.5 (1.01–2.22)	0.7(0.08)	1.8(0.86–3.80)
Rural	1.1(0.24)	1.0 (reference)	0.6(0.24)	1.0 (reference)	0.3(0.09)	1.0 (reference)	0.5(0.17)	1.0 (reference)	1.2(0.22)	1.0 (reference)	0.3(0.11)	1.0 (reference)
Region												
Northeast	2.7(0.35)	1.2(0.79–1.85)	1.0(0.25)	1.2(0.65–2.22)	0.4(0.16)	1.1(0.51–2.55)	1.5(0.28)	0.9(0.58–1.54)	2.1(0.28)	1.1(0.70–1.62)	0.6(0.12)	0.7(0.34–1.29)
Midwest	1.3(0.23)	0.6(0.38–1.01)	0.8(0.15)	0.9(0.54–1.64)	0.6(0.11)	1.8 (1.04–3.04)	0.8(0.14)	0.6 (0.36–0.92)	2.0(0.29)	0.9(0.60–1.42)	0.5(0.09)	0.5(0.27–1.01)
South	1.5(0.15)	0.8(0.54–1.19)	0.7(0.14)	0.7(0.41–1.34)	0.3(0.09)	0.9(0.39–1.93)	1.1(0.14)	0.8(0.51–1.13)	1.7(0.20)	0.8(0.54–1.15)	0.5(0.11)	0.6(0.32–1.25)
West	2.0(0.34)	1.0 (reference)	0.9(0.16)	1.0 (reference)	0.4(0.06)	1.0 (reference)	1.5(0.20)	1.0 (reference)	1.9(0.26)	1.0 (reference)	0.8(0.19)	1.0 (reference)

^a Adjusted for sociodemographic characteristics.

^b Significant ($p < 0.05$) odds ratios appear in bold font.

Table 3

Twelve-Month and Lifetime Prevalences and Adjusted Odds Ratios (AORs)^{a,b} of Sexual Orientation and DSM-5 Substance Use and Psychiatric Disorders.

Psychiatric Disorder	Heterosexual ^c		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
12-Month								
Any substance use disorder	28.3 (0.43)	1.8 (1.43–2.21)	45.1 (2.59)	1.8 (1.43–2.21)	51.7 (2.98)	2.0 (1.50–2.57)	40.2 (4.27)	1.5 (1.03–2.07)
Alcohol use disorder	13.4 (0.32)	1.6 (1.33–1.93)	25.9 (1.78)	1.6 (1.33–1.93)	30.2 (2.32)	1.9 (1.50–2.44)	25.3 (4.04)	1.9 (1.23–2.97)
Drug use disorder	3.7 (0.13)	1.4 (0.92–2.16)	7.4 (1.38)	1.4 (0.92–2.16)	11.0 (1.67)	1.8 (1.30–2.62)	10.7 (2.85)	2.1 (1.17–3.93)
Nicotine use disorder	19.6 (0.42)	1.6 (1.26–2.10)	28.9 (2.49)	1.6 (1.26–2.10)	37.6 (2.67)	2.0 (1.55–2.56)	31.2 (4.15)	1.7 (1.13–2.43)
Any mood disorder	13.0 (0.28)	1.8 (1.44–2.36)	23.1 (2.00)	1.8 (1.44–2.36)	32.3 (2.68)	2.1 (1.66–2.73)	28.7 (4.01)	2.1 (1.44–3.19)
Major depressive disorder	10.0 (0.25)	1.8 (1.37–2.41)	18.0 (1.88)	1.8 (1.37–2.41)	24.0 (2.43)	1.9 (1.43–2.47)	20.5 (3.31)	1.8 (1.21–2.78)
Persistent depressive disorder	3.0 (0.13)	2.3 (1.52–3.37)	6.8 (1.09)	2.3 (1.52–3.37)	8.9 (1.84)	2.4 (1.49–3.80)	6.4 (2.39)	1.8 (0.78–3.97)
Bipolar I disorder	1.5 (0.09)	1.3 (0.65–2.59)	2.2 (0.72)	1.3 (0.65–2.59)	5.2 (1.14)	2.5 (1.53–4.25)	5.5 (2.14)	3.1 (1.35–7.28)
Any anxiety disorder	12.6 (0.24)	2.0 (1.50–2.75)	22.2 (2.57)	2.0 (1.50–2.75)	28.9 (2.04)	2.1 (1.75–2.59)	30.5 (3.75)	2.7 (1.84–3.88)
Panic disorder	2.8 (0.10)	3.0 (1.95–4.56)	7.9 (1.53)	3.0 (1.95–4.56)	10.8 (1.52)	2.6 (1.84–3.54)	12.7 (3.27)	4.0 (2.18–7.31)
Agoraphobia	1.4 (0.09)	3.3 (1.82–6.14)	4.6 (1.41)	3.3 (1.82–6.14)	5.6 (1.22)	2.7 (1.71–4.38)	6.0 (2.08)	3.5 (1.60–7.66)
Social phobia	2.7 (0.13)	2.5 (1.50–4.29)	6.6 (1.56)	2.5 (1.50–4.29)	11.1 (1.64)	3.3 (2.40–4.55)	8.6 (2.59)	2.8 (1.41–5.62)
Specific phobia	5.6 (0.15)	1.4 (0.87–2.29)	7.4 (1.64)	1.4 (0.87–2.29)	12.6 (1.49)	1.9 (1.45–2.39)	10.4 (2.58)	1.7 (0.95–3.00)
Generalized anxiety disorder	5.1 (0.15)	2.0 (1.34–3.06)	9.6 (1.65)	2.0 (1.34–3.06)	14.0 (1.71)	2.5 (1.94–3.30)	11.2 (2.74)	2.1 (1.20–3.80)
Posttraumatic stress disorder	4.4 (0.17)	1.6 (1.06–2.27)	6.7 (1.13)	1.6 (1.06–2.27)	17.9 (2.39)	3.2 (2.34–4.43)	13.8 (2.81)	2.9 (1.74–4.81)
Any personality disorder	14.6 (0.40)	1.8 (1.43–2.18)	25.3 (1.91)	1.8 (1.43–2.18)	45.8 (2.91)	3.9 (3.06–4.98)	40.4 (4.20)	3.5 (2.46–4.96)
Antisocial personality disorder	4.2 (0.17)	0.9 (0.63–1.38)	4.7 (0.80)	0.9 (0.63–1.38)	12.3 (1.66)	2.9 (2.11–4.04)	8.4 (2.52)	1.9 (0.98–3.73)
Borderline personality disorder	10.9 (0.31)	1.9 (1.48–2.42)	19.8 (1.78)	1.9 (1.48–2.42)	36.4 (2.96)	3.6 (2.69–4.69)	32.8 (4.11)	3.4 (2.32–5.07)
Schizotypal personality disorder	5.9 (0.22)	1.7 (1.30–2.27)	11.2 (1.44)	1.7 (1.30–2.27)	25.9 (2.94)	4.0 (2.99–5.47)	22.2 (3.70)	3.6 (2.31–5.50)
Lifetime								
Any substance use disorder	42.5 (0.56)	2.4 (1.96–2.83)	65.4 (2.08)	2.4 (1.96–2.83)	65.9 (2.89)	2.4 (1.78–3.21)	51.7 (4.90)	1.5 (1.00–2.25)
Alcohol use disorder	28.5 (0.49)	1.7 (1.42–2.12)	45.9 (2.31)	1.7 (1.42–2.12)	51.9 (2.87)	2.4 (1.83–3.13)	38.5 (4.42)	1.7 (1.15–2.41)
Drug use disorder	9.5 (0.27)	1.8 (1.34–2.42)	19.4 (2.12)	1.8 (1.34–2.42)	29.6 (2.52)	3.0 (2.31–3.99)	17.7 (3.42)	1.8 (1.08–2.91)
Nicotine use disorder	27.4 (0.53)	1.7 (1.41–2.17)	39.2 (2.41)	1.7 (1.41–2.17)	45.0 (2.73)	2.1 (1.67–2.72)	36.7 (4.44)	1.5 (1.01–2.33)

Psychiatric Disorder	Heterosexual ^c		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Any mood disorder	24.0 (0.42)	2.6 (2.06–3.32)	45.4 (2.68)	2.3 (1.81–2.89)	48.0 (2.84)	2.3 (1.81–2.89)	43.3 (4.15)	2.3 (1.61–3.17)
Major depressive disorder	20.1 (0.38)	2.6 (2.08–3.28)	39.2 (2.41)	1.8 (1.39–2.37)	36.5 (2.98)	1.8 (1.39–2.37)	33.0 (3.76)	1.9 (1.31–2.65)
Persistent depressive disorder	5.3 (0.18)	2.8 (2.06–3.93)	13.8 (1.66)	2.3 (1.60–3.17)	13.4 (1.87)	2.3 (1.60–3.17)	10.3 (2.47)	1.7 (1.00–3.02)
Bipolar I disorder	2.0 (0.10)	1.1 (0.59–2.03)	2.4 (0.73)	2.9 (1.88–4.58)	7.5 (1.38)	2.9 (1.88–4.58)	6.0 (2.17)	2.6 (1.20–5.83)
Any anxiety disorder	16.5 (0.31)	1.9 (1.45–2.48)	26.4 (2.56)	2.1 (1.72–2.60)	33.7 (2.27)	2.1 (1.72–2.60)	35.1 (3.93)	2.6 (1.82–3.68)
Panic disorder	4.9 (0.16)	2.9 (2.06–3.98)	12.0 (1.76)	2.4 (1.77–3.15)	14.5 (1.71)	2.4 (1.77–3.15)	17.0 (3.57)	3.6 (2.27–5.86)
Agoraphobia	1.8 (0.10)	3.7 (2.24–6.19)	6.2 (1.52)	2.8 (1.87–4.25)	6.9 (1.29)	2.8 (1.87–4.25)	6.0 (2.08)	2.8 (1.33–6.09)
Social phobia	3.5 (0.16)	2.4 (1.53–3.89)	8.1 (1.72)	3.2 (2.32–4.31)	12.7 (1.79)	3.2 (2.32–4.31)	9.8 (2.71)	2.6 (1.37–4.96)
Specific phobia	6.3 (0.16)	1.4 (0.87–2.13)	8.0 (1.66)	1.7 (1.35–2.22)	13.0 (1.50)	1.7 (1.35–2.22)	12.7 (2.94)	1.9 (1.11–3.26)
Generalized anxiety disorder	7.5 (0.20)	1.9 (1.30–2.64)	12.5 (1.80)	2.3 (1.74–2.93)	16.5 (1.85)	2.3 (1.74–2.93)	14.1 (2.86)	2.0 (1.20–3.35)
Posttraumatic stress disorder	5.9 (0.20)	1.8 (1.27–2.45)	9.6 (1.32)	2.8 (2.10–3.73)	19.7 (2.31)	2.8 (2.10–3.73)	16.0 (2.88)	2.6 (1.60–4.10)
Any personality disorder ^e	14.6 (0.40)	1.8 (1.43–2.18)	25.3 (1.91)	3.9 (3.06–4.98)	45.8 (2.91)	3.9 (3.06–4.98)	40.4 (4.20)	3.5 (2.46–4.96)
Antisocial personality disorder	4.2 (0.17)	0.9 (0.63–1.38)	4.7 (0.80)	2.9 (2.11–4.04)	12.3 (1.66)	2.9 (2.11–4.04)	8.4 (2.52)	1.9 (0.98–3.73)
Borderline personality disorder	10.9 (0.31)	1.9 (1.48–2.42)	19.8 (1.78)	3.6 (2.69–4.69)	36.4 (2.96)	3.6 (2.69–4.69)	32.8 (4.11)	3.4 (2.32–5.07)
Schizotypal personality disorder	5.9 (0.22)	1.7 (1.30–2.27)	11.2 (1.44)	4.0 (2.99–5.47)	25.9 (2.94)	4.0 (2.99–5.47)	22.2 (3.70)	3.6 (2.31–5.50)

^a Adjusted for sociodemographic characteristics.

^b Significant ($p < 0.05$) odds ratios appear in bold font.

^c Heterosexuals constituted the reference group.

^d Standard Error (SE).

^e Personality disorders measures on a lifetime basis.

Table 4
 Twelve-Month Prevalences and Adjusted Odds Ratios (AORs)^{a,b} of Sexual Orientation and DSM-5 Substance Use and Psychiatric Disorders among Men and Women.

Psychiatric Disorder	Heterosexual ^c		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95%CI)	% (SE)	AOR (95%CI)	% (SE)	AOR (95%CI)	% (SE)	AOR (95%CI)
Men								
Any substance use disorder	33.8 (0.56)	1.5 (1.11–2.09)	46.9 (3.70)	1.5 (1.11–2.09)	49.6 (5.94)	1.4 (0.85–2.19)	37.4 (7.34)	1.0 (0.54–1.84)
Alcohol use disorder	17.3 (0.41)	1.3 (1.03–1.77)	26.6 (2.69)	1.3 (1.03–1.77)	31.4 (5.47)	1.6 (0.96–2.59)	23.7 (6.97)	1.3 (0.60–2.91)
Drug use disorder	4.8 (0.22)	1.1 (0.63–1.88)	7.1 (1.72)	1.1 (0.63–1.88)	10.3 (2.96)	1.4 (0.69–2.76)	6.7 (4.10)	1.1 (0.27–4.39)
Nicotine use disorder	23.0 (0.55)	1.4 (0.99–2.05)	30.0 (3.56)	1.4 (0.99–2.05)	40.8 (5.54)	1.8 (1.13–2.88)	27.5 (7.21)	1.1 (0.52–2.24)
Any mood disorder	10.0 (0.29)	2.1 (1.49–3.01)	21.7 (2.75)	2.1 (1.49–3.01)	22.1 (4.94)	1.9 (1.07–3.33)	14.9 (5.43)	1.3 (0.52–3.13)
Major depressive disorder	6.9 (0.26)	2.3 (1.58–3.41)	17.2 (2.64)	2.3 (1.58–3.41)	13.9 (3.36)	1.6 (0.92–2.84)	12.1 (5.16)	1.5 (0.56–4.09)
Persistent depressive disorder	2.2 (0.15)	2.4 (1.46–3.95)	6.1 (1.25)	2.4 (1.46–3.95)	9.9 (4.32)	3.6 (1.34–9.73)	5.3 (3.52)	1.9 (0.45–8.32)
Bipolar I disorder	1.6 (0.14)	2.0 (1.06)	2.0 (1.06)	1.1 (0.35–3.68)	3.8 (2.05)	1.8 (0.54–5.77)	1.7 (1.23)	0.9 (0.20–3.93)
Any anxiety disorder	8.7 (0.30)	2.9 (1.93–4.36)	23.0 (3.60)	2.9 (1.93–4.36)	20.2 (3.73)	2.3 (1.42–3.64)	25.4 (5.98)	3.2 (1.63–6.31)
Panic disorder	1.8 (0.15)	3.8 (2.20–6.57)	6.3 (1.67)	3.8 (2.20–6.57)	3.7 (2.29)	1.8 (0.56–5.83)	2.7 (1.95)	1.3 (0.28–5.91)
Agoraphobia	0.8 (0.09)	6.1 (2.78–13.57)	5.0 (2.17)	6.1 (2.78–13.57)	2.1 (1.28)	1.9 (0.54–6.97)	4.6 (2.54)	4.5 (1.19–17.23)
Social phobia	2.1 (0.16)	3.5 (1.65–7.28)	7.1 (2.36)	3.5 (1.65–7.28)	8.1 (3.30)	3.3 (1.40–7.89)	7.0 (3.50)	3.0 (0.99–9.11)
Specific phobia	3.5 (0.18)	1.9 (0.93–3.76)	6.8 (2.20)	1.9 (0.93–3.76)	6.4 (2.22)	1.6 (0.75–3.45)	11.3 (5.11)	2.9 (0.99–8.63)
Generalized anxiety disorder	3.7 (0.20)	2.6 (1.40–4.65)	9.8 (2.27)	2.6 (1.40–4.65)	8.3 (2.74)	2.1 (1.02–4.20)	10.4 (4.80)	2.8 (1.02–7.73)
Posttraumatic stress disorder	3.0 (0.19)	2.0 (1.19–3.51)	6.2 (1.45)	2.0 (1.19–3.51)	10.3 (3.15)	3.0 (1.46–6.14)	11.5 (4.60)	3.9 (1.42–10.63)
Any Personality Disorder	16.0 (0.52)	1.7 (1.27–2.17)	25.5 (2.43)	1.7 (1.27–2.17)	40.8 (6.34)	2.9 (1.75–4.88)	28.8 (6.17)	1.9 (0.98–3.68)
Antisocial personality disorder	6.4 (0.28)	0.5 (0.27–1.11)	3.9 (1.25)	0.5 (0.27–1.11)	18.6 (5.20)	2.6 (1.34–5.23)	8.4 (3.94)	1.2 (0.43–3.24)
Borderline personality disorder	10.9 (0.41)	2.0 (1.50–2.81)	20.7 (2.45)	2.0 (1.50–2.81)	32.4 (6.25)	3.2 (1.84–5.56)	18.7 (5.80)	1.6 (0.71–3.80)
Schizotypal personality disorder	6.2 (0.30)	1.8 (1.20–2.56)	11.7 (2.03)	1.8 (1.20–2.56)	26.0 (5.93)	4.0 (2.28–7.07)	19.5 (5.99)	3.0 (1.39–6.38)
Women								
Any substance use disorder	23.3 (0.49)	2.3 (1.71–2.99)	42.5 (3.55)	2.3 (1.71–2.99)	52.6 (3.64)	2.3 (1.63–3.12)	41.9 (5.15)	1.9 (1.21–2.90)
Alcohol use disorder	9.7 (0.35)	2.2 (1.66–2.91)	24.9 (2.50)	2.2 (1.66–2.91)	29.7 (3.04)	2.1 (1.48–2.86)	26.3 (4.76)	2.5 (1.47–4.34)
Drug use disorder	2.7 (0.15)	2.3 (1.20–4.26)	7.9 (2.32)	2.3 (1.20–4.26)	11.3 (2.29)	2.3 (1.43–3.68)	13.2 (3.83)	3.4 (1.81–6.25)
Nicotine use disorder	16.4 (0.43)	2.0 (1.45–2.88)	27.3 (3.48)	2.0 (1.45–2.88)	36.3 (3.16)	2.0 (1.48–2.80)	33.6 (5.11)	2.1 (1.35–3.40)

Psychiatric Disorder	Heterosexual ^c		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95%CI)	% (SE)	AOR (95%CI)	% (SE)	AOR (95%CI)	% (SE)	AOR (95%CI)
Any mood disorder	15.9 (0.41)	1.6 (1.12–2.18)	25.0 (2.91)	1.6 (1.12–2.18)	36.5 (3.04)	2.2 (1.68–2.84)	37.5 (5.29)	2.6 (1.66–4.15)
Major depressive disorder	13.0 (0.37)	1.4 (0.94–2.00)	19.1 (2.76)	1.4 (0.94–2.00)	28.2 (2.85)	1.9 (1.44–2.53)	25.9 (4.32)	1.9 (1.22–3.08)
Persistent depressive disorder	3.7 (0.18)	2.2 (1.17–4.07)	7.9 (2.12)	2.2 (1.17–4.07)	8.5 (1.87)	2.0 (1.25–3.30)	7.2 (3.20)	1.7 (0.63–4.54)
Bipolar I disorder	1.3 (0.11)	1.7 (0.78–3.53)	2.4 (0.89)	1.7 (0.78–3.53)	5.8 (1.34)	3.0 (1.66–5.35)	8.0 (3.34)	5.0 (1.89–13.48)
Any anxiety disorder	16.3 (0.38)	1.4 (0.92–1.99)	21.1 (3.13)	1.4 (0.92–1.99)	32.5 (2.70)	2.1 (1.62–2.67)	33.7 (4.66)	2.4 (1.63–3.66)
Panic disorder	3.8 (0.15)	2.6 (1.32–5.04)	10.0 (2.86)	2.6 (1.32–5.04)	13.7 (1.99)	2.6 (1.79–3.73)	19.0 (4.96)	4.9 (2.52–9.58)
Agoraphobia	1.9 (0.14)	1.9 (0.79–4.71)	4.0 (1.68)	1.9 (0.79–4.71)	7.1 (1.61)	2.8 (1.71–4.68)	7.0 (2.99)	3.1 (1.22–7.68)
Social phobia	3.2 (0.18)	1.8 (0.89–3.77)	5.9 (1.95)	1.8 (0.89–3.77)	12.2 (2.03)	3.3 (2.23–4.83)	9.7 (3.53)	2.7 (1.15–6.36)
Specific phobia	7.4 (0.21)	1.1 (0.62–1.93)	8.2 (2.10)	1.1 (0.62–1.93)	15.2 (1.80)	1.9 (1.45–2.51)	9.8 (2.81)	1.2 (0.66–2.36)
Generalized anxiety disorder	6.4 (0.28)	1.6 (0.91–2.68)	9.3 (2.19)	1.6 (0.91–2.68)	16.3 (2.42)	2.7 (1.94–3.88)	11.7 (3.13)	1.9 (1.01–3.57)
Posttraumatic stress disorder	5.7 (0.25)	1.2 (0.73–2.09)	7.4 (1.71)	1.2 (0.73–2.09)	21.0 (3.08)	3.1 (2.15–4.54)	15.3 (3.41)	2.5 (1.46–4.24)
Any personality disorder ^e	13.3 (0.43)	2.0 (1.42–2.72)	25.0 (3.12)	2.0 (1.42–2.72)	47.8 (3.36)	4.3 (3.25–5.71)	47.8 (5.47)	5.0 (3.29–7.71)
Antisocial personality disorder	2.2 (0.13)	2.5 (1.56–4.02)	5.8 (1.25)	2.5 (1.56–4.02)	9.7 (1.58)	3.2 (2.19–4.65)	8.4 (3.37)	3.0 (1.24–7.22)
Borderline personality disorder	10.9 (0.36)	1.7 (1.14–2.55)	18.5 (2.90)	1.7 (1.14–2.55)	38.0 (3.41)	3.5 (2.57–4.89)	41.7 (5.62)	4.9 (3.03–7.88)
Schizotypal personality disorder	5.6 (0.27)	1.7 (1.19–2.57)	10.6 (1.89)	1.7 (1.19–2.57)	25.8 (3.28)	4.2 (2.97–5.90)	23.9 (4.64)	4.1 (2.46–6.78)

^aAdjusted for sociodemographic characteristics.

^bSignificant (p < 0.05) odds ratios appear in bold font.

^cHeterosexuals constituted the reference group.

^dStandard Error (SE).

^ePersonality disorders measured on a lifetime basis.

Table 5

Lifetime Prevalences and Adjusted Odds Ratios (AORs)^{a,b} of Sexual Orientation and DSM-5 Substance Use and Psychiatric Disorders among Men and Women.

Psychiatric Disorder	Heterosexual ^c		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Men								
Any substance use disorder	50.1 (0.72)	1.9 (1.49–2.48)	67.3 (2.69)	1.9 (1.49–2.48)	64.3 (4.98)	1.5 (0.94–2.39)	51.4 (8.24)	1.1 (0.52–2.18)
Alcohol use disorder	35.7 (0.63)	1.3 (1.01–1.73)	46.0 (3.18)	1.3 (1.01–1.73)	52.6 (5.45)	1.7 (1.03–2.66)	38.1 (7.47)	1.1 (0.60–2.12)
Drug use disorder	12.1 (0.41)	1.4 (0.91–2.11)	19.6 (2.91)	1.4 (0.91–2.11)	26.5 (4.23)	1.9 (1.18–3.01)	13.4 (4.88)	0.9 (0.38–2.31)
Nicotine use disorder	31.8 (0.71)	1.5 (1.12–2.05)	40.7 (3.30)	1.5 (1.12–2.05)	51.9 (5.23)	2.1 (1.37–3.27)	35.3 (8.58)	1.1 (0.48–2.57)
Any mood disorder	18.3 (0.46)	3.0 (2.17–4.19)	44.0 (3.62)	3.0 (2.17–4.19)	36.6 (5.88)	2.1 (1.25–3.47)	33.7 (6.92)	2.1 (1.13–3.80)
Major depressive disorder	14.1 (0.41)	3.4 (2.47–4.62)	39.1 (3.29)	3.4 (2.47–4.62)	26.6 (5.24)	1.8 (1.07–3.18)	28.5 (7.42)	2.3 (1.11–4.71)
Persistent depressive disorder	3.9 (0.21)	3.7 (2.50–5.58)	15.0 (2.21)	3.7 (2.50–5.58)	13.3 (4.72)	2.9 (1.29–6.59)	8.6 (2.14)	1.8 (0.96–3.51)
Bipolar I disorder	2.1 (0.16)	1.0 (0.35–2.68)	2.3 (1.08)	1.0 (0.35–2.68)	5.1 (2.17)	1.8 (0.71–4.82)	1.7 (1.23)	0.7 (0.15–2.89)
Any anxiety disorder	11.7 (0.37)	2.6 (1.74–3.75)	26.5 (3.70)	2.6 (1.74–3.75)	25.9 (4.21)	2.4 (1.54–3.77)	30.5 (6.42)	3.2 (1.68–6.13)
Panic disorder	3.1 (0.20)	3.5 (2.20–5.47)	9.3 (1.88)	3.5 (2.20–5.47)	5.2 (2.69)	1.6 (0.55–4.45)	6.2 (2.74)	2.0 (0.76–5.15)
Agoraphobia	1.0 (0.10)	6.6 (3.10–13.90)	6.2 (2.43)	6.6 (3.10–13.90)	3.8 (2.16)	3.1 (1.02–9.34)	4.6 (2.54)	3.6 (0.99–13.33)
Social phobia	2.8 (0.19)	3.3 (1.75–6.18)	9.3 (2.63)	3.3 (1.75–6.18)	10.2 (3.54)	3.4 (1.62–7.28)	7.9 (3.62)	2.6 (0.93–7.40)
Specific phobia	3.9 (0.18)	1.9 (1.00–3.51)	7.7 (2.24)	1.9 (1.00–3.51)	7.5 (2.36)	1.7 (0.88–3.45)	11.3 (5.11)	2.7 (0.93–7.72)
Generalized anxiety disorder	5.4 (0.23)	2.2 (1.36–3.71)	12.7 (2.55)	2.2 (1.36–3.71)	11.1 (3.02)	2.0 (1.08–3.63)	14.5 (5.60)	2.8 (1.13–7.15)
Posttraumatic stress disorder	3.9 (0.21)	2.0 (1.31–3.17)	7.8 (1.51)	2.0 (1.31–3.17)	11.0 (2.93)	2.5 (1.34–4.77)	11.5 (4.60)	3.0 (1.09–8.05)
Any Personality Disorder	16.0 (0.52)	1.7 (1.27–2.17)	25.5 (2.43)	1.7 (1.27–2.17)	40.8 (6.34)	2.9 (1.75–4.88)	28.8 (6.17)	1.9 (0.98–3.68)
Antisocial personality disorder	6.4 (0.28)	0.5 (0.27–1.11)	3.9 (1.25)	0.5 (0.27–1.11)	18.6 (5.20)	2.6 (1.34–5.23)	8.4 (3.94)	1.2 (0.43–3.24)
Borderline personality disorder	10.9 (0.41)	2.0 (1.50–2.81)	20.7 (2.45)	2.0 (1.50–2.81)	32.4 (6.25)	3.2 (1.84–5.56)	18.7 (5.80)	1.6 (0.71–3.80)
Schizotypal personality disorder	6.2 (0.30)	1.8 (1.20–2.56)	11.7 (2.03)	1.8 (1.20–2.56)	26.0 (5.93)	4.0 (2.28–7.07)	19.5 (5.99)	3.0 (1.39–6.38)
Women								
Any substance use disorder	35.4 (0.59)	3.0 (2.26–4.11)	62.8 (3.44)	3.0 (2.26–4.11)	66.5 (3.63)	2.7 (1.93–3.87)	51.9 (5.94)	1.8 (1.14–2.96)
Alcohol use disorder	21.8 (0.54)	2.6 (1.93–3.57)	45.8 (3.55)	2.6 (1.93–3.57)	51.7 (3.61)	2.7 (1.93–3.65)	38.7 (5.57)	2.2 (1.33–3.51)
Drug use disorder	7.0 (0.28)	2.7 (1.82–4.09)	19.2 (3.05)	2.7 (1.82–4.09)	30.8 (3.50)	3.8 (2.64–5.42)	20.5 (4.57)	2.7 (1.50–4.70)
Nicotine use disorder	23.3 (0.54)	2.2 (1.62–3.01)	37.1 (3.58)	2.2 (1.62–3.01)	42.2 (3.34)	2.0 (1.50–2.79)	37.6 (5.04)	1.9 (1.19–2.89)

Psychiatric Disorder	Heterosexual ^f		Gay/Lesbian		Bisexual		Not Sure	
	% (SE) ^d	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)	% (SE)	AOR (95% CI)
Any mood disorder	29.2 (0.55)	2.1 (1.51–2.97)	47.3 (4.03)	2.1 (1.51–2.97)	52.6 (3.05)	2.4 (1.86–3.06)	49.4 (5.51)	2.4 (1.51–3.71)
Major depressive disorder	25.6 (0.51)	1.8 (1.33–2.51)	39.3 (3.63)	1.8 (1.33–2.51)	40.4 (3.21)	1.8 (1.38–2.36)	35.8 (4.63)	1.7 (1.09–2.51)
Persistent depressive disorder	6.6 (0.25)	2.0 (1.20–3.44)	12.2 (2.64)	2.0 (1.20–3.44)	13.5 (2.16)	2.1 (1.44–3.15)	11.3 (3.80)	1.7 (0.80–3.74)
Bipolar I disorder	1.8 (0.12)	1.3 (0.67–2.68)	2.6 (0.89)	1.3 (0.67–2.68)	8.5 (1.65)	3.5 (2.10–5.83)	8.7 (3.38)	4.3 (1.70–10.63)
Any anxiety disorder	21.0 (0.47)	1.4 (0.98–1.89)	26.1 (3.06)	1.4 (0.98–1.89)	36.9 (2.85)	2.0 (1.58–2.59)	38.0 (4.93)	2.3 (1.56–3.44)
Panic disorder	6.6 (0.25)	2.6 (1.61–4.34)	15.8 (3.05)	2.6 (1.61–4.34)	18.2 (2.24)	2.5 (1.79–3.44)	23.9 (5.31)	4.3 (2.51–7.29)
Agoraphobia	2.4 (0.16)	2.4 (1.22–4.79)	6.0 (1.86)	2.4 (1.22–4.79)	8.2 (1.56)	2.7 (1.78–4.19)	7.0 (2.99)	2.5 (1.02–6.29)
Social phobia	4.1 (0.20)	1.7 (0.87–3.19)	6.6 (1.98)	1.7 (0.87–3.19)	13.7 (2.18)	3.0 (2.08–4.44)	10.9 (3.75)	2.6 (1.15–5.72)
Specific phobia	8.5 (0.24)	1.0 (0.57–1.74)	8.4 (2.10)	1.0 (0.57–1.74)	15.2 (1.80)	1.7 (1.31–2.28)	13.5 (3.68)	1.6 (0.88–3.03)
Generalized anxiety disorder	9.4 (0.34)	1.5 (0.93–2.31)	12.2 (2.38)	1.5 (0.93–2.31)	18.7 (2.39)	2.4 (1.74–3.29)	13.9 (3.29)	1.7 (0.94–3.01)
Posttraumatic stress disorder	7.7 (0.30)	1.6 (1.01–2.61)	12.1 (2.33)	1.6 (1.01–2.61)	23.2 (3.05)	2.8 (2.00–3.96)	18.9 (3.62)	2.4 (1.49–3.96)
Any personality disorder ^e	13.3 (0.43)	2.0 (1.42–2.72)	25.0 (3.12)	2.0 (1.42–2.72)	47.8 (3.36)	4.3 (3.25–5.71)	47.8 (5.47)	5.0 (3.29–7.71)
Antisocial personality disorder	2.2 (0.13)	2.5 (1.56–4.02)	5.8 (1.25)	2.5 (1.56–4.02)	9.7 (1.58)	3.2 (2.19–4.65)	8.4 (3.37)	3.0 (1.24–7.22)
Borderline personality disorder	10.9 (0.36)	1.7 (1.14–2.55)	18.5 (2.90)	1.7 (1.14–2.55)	38.0 (3.41)	3.5 (2.57–4.89)	41.7 (5.62)	4.9 (3.03–7.88)
Schizotypal personality disorder	5.6 (0.27)	1.7 (1.19–2.57)	10.6 (1.89)	1.7 (1.19–2.57)	25.8 (3.28)	4.2 (2.97–5.90)	23.9 (4.64)	4.1 (2.46–6.78)

^a Adjusted for sociodemographic characteristics.

^b Significant ($p < 0.05$) odds ratios appear in bold fonts.

^c Standard Error (SE).

^d Heterosexuals constituted the reference group.

^e Personality disorders measured on a lifetime basis.

Table 6

Adjusted Odds Ratio (AORs)^{a,b,c} of Sexual Orientation and Lifetime DSM-5 Substance Use and Psychiatric Disorders Among Sexual Minority Men and Women.

Psychiatric Disorder	12-Month			Lifetime		
	Men		Women	Men		Women
	Bisexual AOR (95% CI) ^d	Not sure AOR (95% CI)	Bisexual AOR (95% CI)	Not sure AOR (95% CI)	Bisexual AOR (95% CI)	Not sure AOR (95% CI)
Any substance use disorder	0.9 (0.53–1.57)	0.8 (0.36–1.71)	1.0 (0.62–1.54)	0.8 (0.41–1.42)	0.8 (0.47–1.26)	0.5 (0.25–1.15)
Alcohol use disorder	1.2 (0.71–2.07)	1.3 (0.52–3.20)	1.0 (0.62–1.68)	1.3 (0.65–2.45)	1.2 (0.73–2.09)	0.8 (0.45–1.58)
Drug use disorder	1.3 (0.64–2.65)	1.0 (0.22–4.55)	1.2 (0.54–2.53)	1.9 (0.75–4.56)	1.4 (0.79–2.60)	0.7 (0.24–1.95)
Nicotine use disorder	1.3 (0.73–2.36)	0.8 (0.32–1.93)	1.0 (0.60–1.58)	0.9 (0.48–1.84)	1.4 (0.84–2.43)	0.7 (0.27–1.65)
Any mood disorder	0.8 (0.39–1.63)	0.6 (0.25–1.40)	1.3 (0.79–2.12)	1.7 (0.93–3.23)	0.8 (0.44–1.54)	0.8 (0.38–1.50)
Major depressive disorder	0.6 (0.31–1.38)	0.7 (0.27–1.66)	1.3 (0.76–2.16)	1.5 (0.83–2.82)	0.6 (0.34–1.22)	0.8 (0.34–1.73)
Persistent depressive disorder	1.3 (0.44–3.97)	1.3 (0.32–5.37)	0.8 (0.37–1.86)	0.8 (0.25–2.45)	0.9 (0.41–1.96)	0.7 (0.33–1.31)
Bipolar I disorder	2.1 (0.20–21.13)	1.1 (0.19–6.52)	2.3 (0.84–6.47)	3.8 (1.12–13.00)	2.4 (0.42–13.06)	0.8 (0.15–3.94)
Any anxiety disorder	0.8 (0.44–1.59)	1.3 (0.51–3.04)	1.6 (0.99–2.60)	1.9 (1.08–3.24)	1.0 (0.54–1.74)	1.4 (0.58–3.17)
Panic disorder	0.6 (0.17–1.95)	0.4 (0.05–3.18)	1.0 (0.46–2.20)	2.1 (0.81–5.47)	0.5 (0.13–1.67)	0.8 (0.21–2.80)
Agoraphobia	0.4 (0.10–1.60)	1.6 (0.23–11.61)	1.3 (0.43–3.69)	1.2 (0.29–4.61)	0.5 (0.16–1.61)	1.0 (0.20–4.58)
Social phobia	1.0 (0.26–3.48)	0.9 (0.14–5.62)	2.1 (0.84–5.29)	1.9 (0.62–6.15)	1.0 (0.34–2.80)	0.8 (0.16–3.96)
Specific phobia	0.9 (0.33–2.70)	1.6 (0.43–5.94)	1.8 (0.97–3.44)	1.1 (0.45–2.87)	1.1 (0.42–2.66)	1.4 (0.37–5.14)
Generalized anxiety disorder	0.9 (0.37–2.18)	1.2 (0.38–3.82)	1.7 (0.82–3.71)	1.4 (0.63–3.33)	0.9 (0.46–1.91)	1.2 (0.40–3.34)
Posttraumatic stress disorder	1.7 (0.67–4.35)	1.6 (0.48–5.53)	2.4 (1.28–4.65)	2.0 (0.95–4.12)	1.3 (0.63–2.84)	1.2 (0.38–4.13)
Any personality disorder ^e	1.9 (1.09–3.37)	1.3 (0.61–2.93)	2.1 (1.32–3.30)	3.1 (1.67–5.71)	1.9 (1.09–3.37)	1.3 (0.61–2.93)
Antisocial personality disorder	6.5 (1.88–22.21)	2.4 (0.67–8.32)	1.4 (0.74–2.74)	1.6 (0.57–4.74)	6.5 (1.88–22.21)	2.4 (0.67–8.32)
Borderline personality disorder	1.7 (0.88–3.17)	0.9 (0.36–2.32)	2.1 (1.25–3.43)	3.3 (1.63–6.71)	1.7 (0.88–3.17)	0.9 (0.36–2.32)
Schizotypal personality disorder	2.6 (1.27–5.23)	2.1 (0.79–5.49)	2.3 (1.33–4.10)	2.6 (1.32–5.05)	2.6 (1.27–5.23)	2.1 (0.79–5.49)

^a Adjusted for sociodemographic characteristics.

^b Significant (p < 0.05) odds ratios appear in bold font.

^c For men, gay men constituted the reference group; For women, lesbian women constituted reference group.

^d CI = confidence interval.

Personality disorders measured on a lifetime basis.

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