

# The Mental Health of Sexual Minority Adults In and Out of the Closet: A Population-Based Study

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**Objectives:** Previous studies have found that sexual orientation concealment affords escape from stigma and discrimination but also creates a psychological toll. While disclosure alleviates the mental burden of concealment, it invites the stress of navigating a new public identity. Population-based samples that include both “in” and “out” sexual minorities provide an ideal opportunity to resolve limitations and inconsistencies of previous nonprobability investigations into the mental health correlates of concealment and disclosure. **Method:** Sexual minority participants in the California Quality of Life Survey ( $n = 2,083$ ) indicated whether and when they first disclosed their sexual orientation to others. Prevalence of 1-year major depressive disorder and generalized anxiety disorder was derived from the Composite International Diagnostic Interview—Short Form. **Results:** Closeted men ( $n = 84$ ) were less likely to be depressed than out men,  $n = 1,047$ ; odds ratio (OR) = 0.41; 95% CI [0.17, 0.996]. Men who were recently out ( $n = 201$ ) experienced higher odds of major depressive disorder, OR = 6.21; 95% CI [1.53, 24.47], and generalized anxiety disorder, OR = 5.51; 95% CI [1.51, 20.13], as compared to closeted men. Men who were distantly out ( $n = 846$ ) also experienced higher odds of major depressive disorder than men who were closeted, OR = 2.91; 95% CI [1.10, 7.69]. Recently out women ( $n = 243$ ) experienced lower odds of depression than closeted women,  $n = 63$ ; OR = 0.21; 95% CI [0.05, 0.96]. **Conclusion:** Whether being in or out of the closet is associated with depression and anxiety largely depends on gender. Clinical and policy implications are discussed in terms of the unique stressors facing men and women both in and out of the closet.

## *What is the public health significance of this article?*

This population-based study suggests that the mental health of sexual minority men and women depends on whether and how long ago they first disclosed their sexual orientation. Sexual minority men who have recently come out are at particularly high risk of experiencing major depression and generalized anxiety disorder. For women, those who stay in the closet are at high risk for depression but not when they have recently come out. Given its important implications for mental health, sexual orientation and its concealment and disclosure should be incorporated into standard mental health assessments of the general population.

**Keywords:** stigma, concealment, disclosure, LGB mental health, mental health

Previous research into the mental health correlates of sexual orientation concealment has yielded contradictory answers to the question of whether concealment is associated with positive or

negative mental health for sexual minority individuals (i.e., those who identify as lesbian, gay, or bisexual [LGB] or those who engage in same-sex sexual activity). On the one hand, it has been argued that identity concealment allows sexual minority individuals to avoid stigma and discrimination (D’Augelli, Hershberger, & Pilkington, 1998; Ragins, Singh, & Cornwell, 2007) and associated mental health problems (e.g., Huebner & Davis, 2005; Mays & Cochran, 2001; Rosario, Schrimshaw, & Hunter, 2009). On the other hand, the stress of stigma concealment is positively associated with shame, guilt, and disrupted relationships (Pachankis, 2007) and symptoms of depression and anxiety (Beals, Peplau, & Gable, 2009; Frost, Parsons, & Nanin, 2007).

Similar inconsistencies are found in studies of the mental health consequences of sexual orientation disclosure, the opposite of concealment (Pachankis, 2007). Identity disclosure can avail stigmatized individuals of group-based protection (Crocker & Major, 1989), contact with similar others (Frable, Platt, & Hoey, 1998),

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and the possibility of fully integrating multiple personal identities into a unified sense of self (Rosario, Schrimshaw, Hunter, & Braun, 2006), all of which contribute to positive mental health. However, disclosure of a stigmatized identity also invites possible rejection (Pachankis, Goldfried, & Ramrattan, 2008) and the stress of navigating new social networks, communities, and life trajectories that may fall outside expected norms (Cochran, 2001; D'Augelli, 1998). As Schrimshaw and colleagues (2013) review, some studies show positive associations between disclosure and mental health (e.g., Beals et al., 2009; Rosario, Schrimshaw, & Hunter, 2011), whereas others show negative (Hershberger, Pilkington, & D'Augelli, 1997; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001) or no such associations (Balsam & Mohr, 2007; Lewis, Derlega, Griffin, & Krowinski). In these studies, the effect of gender on associations between concealment and disclosure and mental health outcomes in the general population is largely unclear, given that many studies focus on only one gender (e.g., Frost et al., 2007), and most are limited to adolescents in the early coming-out process (e.g., Rosario et al., 2001). However, disclosure and anxiety seem to be particularly associated for men (e.g., Rosario et al., 2001). Male youths report consistently lower LGB identity integration and therefore lower disclosure and more psychological distress (Rosario et al., 2011). Conversely, for adult women, disclosure is more strongly associated with positive relationship quality than it is for men (Beals et al., 2009). Other research with sexual minority adults finds no differences in outness between men and women (Balsam & Mohr, 2007), although few of these studies have examined the association with mental health.

One explanation for these contradictory findings regarding the mental health correlates of sexual orientation concealment and disclosure might be the methodological limitations in existing studies. Extant studies on the mental health correlates of concealment and disclosure are typically limited in that they (a) rely on non-probability-based sampling approaches, (b) include incomplete measures of sexual orientation concealment and disclosure, and (c) rely on self-reported mental health.

It has long been noted that non-probability-based studies can be hampered by typically recruiting "out" individuals (i.e., those who have disclosed their identity to another person) and those who self-identify as LGB (Cochran, 2001). Because nonprobability LGB sampling designs normally recruit out, self-identified LGB individuals who are often embedded in LGB networks, they only capture a limited range of concealment and disclosure. These studies measure concealment as a matter of degree among individuals who are at least partially out rather than also capturing the experience of sexual minority individuals who are completely "closeted" (i.e., have not disclosed their identity to another person) or those who do not self-identify as LGB. These studies also rely on self-reported global estimates of concealment and disclosure. For example, studies often ask individuals who are out to report the number and type of individuals to whom they are out (e.g., D'Augelli et al., 1998; Huebner & Davis, 2005; Meyer, Rossano, Ellis, & Bradford, 2002; Ragins et al., 2007). Another common approach, for example, asks individuals to report the general degree to which they are worried or concerned about their sexual orientation being known (e.g., Frost et al., 2007; Schrimshaw et al., 2013) or how much they generally concealed or disclosed their sexual orientation during a given period (Beals et al., 2009;

Pachankis, Westmaas, & Dougherty, 2011). Further, these studies rely on self-reports of mental health symptoms rather than utilizing interviewer-based assessments designed to determine probable diagnosis. Relying on self-reported stress experiences, such as concealment, and self-reported mental health symptoms can produce biased estimates, as both are confounded with negative affect (Meyer, 2003; Watson & Pennebaker, 1989). In sum, previous results are likely to be contingent on each study's particular sampling and measurement approach, potentially explaining previous inconsistencies.

Similar to the inconsistent findings regarding the mental health correlates of sexual orientation concealment and disclosure, knowing whether being recently out represents a period of disproportionate stress or a smooth transition without adverse impact on mental health remains unsettled (Cohler & Hammack, 2007; Savin-Williams, 2009). The prevalence of mental health problems differs by age in the general population (Pratt & Brody, 2008), likely as a function of the changing nature of stress experienced over the life course (Pearlin & Skaff, 1996). Because sexual minority individuals who are recently out likely experience different stigma-related stress than individuals who have been out for several years (Grossman, D'Augelli, & O'Connell, 2002), it can be assumed that current mental health morbidity among sexual minority individuals might reflect the amount of time they have been out. Being recently out may be associated with challenges involved in navigating new identities and communities that may resolve over time as one becomes more integrated into those communities (Coleman, 1982). Alternately, the stress of being exposed to sexual orientation-based discrimination may accumulate over the life course, such that sexual minorities who have been out longer are at greater risk of mental health problems (D'Augelli & Grossman, 2001). Such a life course accumulation effect would parallel the stress accumulation found for other disadvantaged social statuses, such as low socioeconomic status or racial or ethnic minority status, on adverse health outcomes (e.g., Gee, Walsemann, & Brondolo, 2012; Pearlin, Schieman, Fazio, & Meersman, 2005; Pollitt, Rose, & Kaufman, 2005). As previous research has been limited to convenience samples of specific age groups, such as adolescents (D'Augelli et al., 1998; Rosario et al., 2001) or working adults (Huebner & Davis, 2005; Ragins et al., 2007), these studies have not been able to ascertain the sexual orientation concealment and disclosure experiences of the general sexual minority adult population across age cohorts and across the total possible range of length of time out, from zero years to several decades.

Population-based mental health surveys that sample individuals from an entire population regardless of sexual orientation, while also assessing sexual orientation identity and sexual partner gender, provide the ability to capture the experience of individuals who have not disclosed their sexual orientation to others as well as opportunities to assess mental health as a function of disclosure status. The California Quality of Life (Cal-QOL) survey is a follow-up to the California Health Interview Survey (CHIS; 2009) designed to approximate the California population on several demographic dimensions (Cochran, Grella, & Mays, 2012). By sampling all sexual minority respondents in the CHIS with certainty and assessing experiences specific to their sexual orientation, the Cal-QOL provides the ability to examine the mental health of this population as a function of outness (i.e., closeted,

recently out, distantly out). This provides an unprecedented opportunity. Previous studies either have not been population based or, if they have, have not included measures related to sexual orientation concealment and disclosure or the ability to capture probable mental health diagnosis.

Given the dearth of information regarding the characteristics of individuals who conceal their sexual orientation in the general population, we first set out to describe the demographic characteristics—for example, relationship status, partner gender, sexual orientation identity (i.e., gay or lesbian, bisexual, men who have sex with men [MSM] or women who have sex with women [WSW]) of sexual minority men and women in the general population who are in and out of the closet. We then compare the odds of past-year major depressive disorder and generalized anxiety disorder—two stress-sensitive mental health disorders (Cochran & Mays, 2009; Hammen, 2005; Mineka & Zinbarg, 2006) that disproportionately affect sexual minority individuals compared to heterosexual individuals (Cochran, Sullivan, & Mays, 2003)—across closeted, recently out, and distantly out sexual minority individuals in a population-based sample of sexual minority adults. With the goal of resolving previous inconsistencies found in non-probability studies regarding the relationship between concealment and disclosure and mental health problems, we then ask whether (a) being closeted is associated with poorer mental health than being out, (b) being recently out is associated with poorer mental health than being distantly out, (c) being recently out is associated with poorer mental health than being closeted, and (d) being distantly out is associated with poorer mental health than being closeted. The goal of this study is to examine the patterning of mental health problems by outness status among sexual minorities—a group that as a whole experiences significantly more depression and anxiety than heterosexuals do (Cochran & Mays, 2009; Mays & Cochran, 2001; Sandfort, de Graaf, Bijl, & Schnabel, 2001), but for which few studies have examined *within*-group disparities in mental health morbidities.

We also explore whether associations between outness and mental health morbidity vary according to gender. Specifically, associations between mental health problems and being closeted might be stronger for women compared to men, and associations between mental health problems and being out might be weaker for women compared to men given that women experience fewer emotional benefits than men do from living heterosexually (e.g., Loscocco & Walzer, 2013). The association between recent mental health morbidity and length of time out might be stronger for women than men given that economic disadvantage disproportionately accrues to sexual minority women compared to men across the life course (Alm, Badgett, & Whittington, 2000; Badgett, 1995). On the other hand, given that male homosexuality invokes greater homophobia from others (Herek, 2000), men who have been out for a long period of time might experience poorer mental health compared to distantly out women as discrimination accrues across the life span. The association between time out and mental health might obviously be confounded with age, necessitating that all investigations of this association control for age to determine the incremental effect of length of time out.

In sum, we attempt to determine whether being closeted is associated with poorer mental health than being out and whether being recently out is associated with poorer mental health than being closeted or distantly out. By uncovering the pattern of

mental health morbidity according to outness status across the sexual minority adult population, results can contribute to LGB-affirmative practice by guiding mental health professionals' assessment and treatment of sexual minority clients' mental health concerns across the spectrum of sexual orientation concealment and disclosure (American Psychological Association, 2012).

## Method

### Participants and Procedure

Data for this study were drawn from the multistage California Quality of Life (Cal-QOL) survey, a set of three follow-back surveys to the population-based CHIS conducted in 2003, 2007, and 2009. The CHIS is a random-digit dial telephone health interview of California adults age 18 and older (2003 CHIS,  $N = 42,044$ ; 2007 CHIS,  $N = 51,048$ ; 2009 CHIS,  $N = 47,614$ ). During the CHIS interview, participants reported their sexual orientation identity, past-year sexual history, and willingness to be contacted for future health surveys. All CHIS respondents who reported an LGB identity or a past-year same-sex sexual partner and willingness to participate in future surveys were recontacted with a request to participate in the Cal-QOL survey. Participants were included in the current study if the Cal-QOL reassessment of sexual orientation indicated that they currently identified as LGB or reported lifetime histories of same-sex sexual behavior. The final Cal-QOL data set includes 2,083 participants (1,130 men; 953 women). Missing data were rare, ranging up to at most 3.6% of responses for major depression and generalized anxiety disorder. Standard imputation procedures were used for the analyses reported below (Rubin, 1987). Tables 1 and 2 contain demographic information for the full sample and separately for those who were closeted, recently out, and distantly out.

### Measures

Participants were administered a structured, computer-assisted telephone interview by extensively trained interviewers. Interview assessments relevant to the present study included:

**Demographic covariates.** The interview assessed participants' gender, age, race or ethnicity, educational attainment, whether participants were born in the United States, relationship status, family income, and HIV status. We coded race or ethnicity into five categories (Hispanic, non-Hispanic White, non-Hispanic Black, non-Hispanic Asian or Pacific Islander, or Non-Hispanic Native American or Alaskan Native); educational attainment into five categories (less than high school, high school degree, some college, college, or any graduate education); and relationship status into two groups (married or cohabiting or other). The survey wave was also included as a covariate given significant change in the social climate surrounding sexual minorities in California across the three survey waves (i.e., 2003, 2007, and 2009).

**Sexual orientation.** Participants were asked the genders of their sexual partners since age 18 and in the year before the interview. They were then asked whether they considered themselves heterosexual or straight, lesbian, gay, bisexual, homosexual, something else, or as no label. We used this information to identify sexual minority participants and to categorize sexual minority participants as gay or lesbian, bisexual, or MSM or WSW.

Table 1  
 Characteristics of Weighted Male Study Participants ( $N = 1,130$ ) by Sexual Orientation Disclosure Status in the California Quality of Life Survey

Variable	Full sample	Closeted (0 years) $n = 84$ (7.4%)	Recently out (<9 years) $n = 201$ (17.8%)	Distantly out (9+ years) $n = 846$ (74.8%)
<b>Age***</b>				
18–29	183 (16.2)	19 (22.6)	131 (65.2)	33 (3.9)
30–39	251 (22.2)	16 (19.0)	37 (18.4)	197 (23.3)
40–49	319 (28.2)	19 (22.6)	21 (10.4)	280 (33.1)
50–59	235 (20.8)	19 (22.6)	7 (3.5)	209 (24.7)
60–72	129 (11.4)	9 (10.7)	4 (2.0)	115 (13.6)
73–84	13 (1.1)	1 (1.2)	0 (0)	12 (1.4)
<b>Race or ethnicity*</b>				
Hispanic	263 (23.3)	16 (19.0)	72 (35.8)	175 (20.7)
White	727 (64.3)	51 (60.7)	95 (47.3)	581 (68.7)
Black	56 (5.0)	4 (4.8)	7 (3.5)	45 (5.3)
Asian or Pacific Islander	76 (6.7)	12 (14.3)	27 (13.4)	37 (4.4)
Native American or Alaskan Native	9 (0.8)	0 (0)	0 (0)	8 (0.9)
<b>Education***</b>				
Less than high school	84 (7.4)	12 (14.3)	18 (9.0)	54 (6.4)
High school degree	166 (14.7)	10 (11.9)	66 (32.8)	90 (10.6)
Some college	290 (25.6)	32 (38.1)	52 (25.9)	206 (24.3)
College	328 (29.0)	13 (15.5)	40 (20.0)	274 (32.4)
Any graduate school	262 (23.2)	16 (19.0)	24 (11.9)	222 (26.2)
<b>Born in United States</b>				
Yes	910 (80.5)	57 (67.9)	151 (75.1)	703 (83.1)
No	220 (19.5)	27 (32.1)	50 (24.9)	143 (16.9)
<b>Relationship status***</b>				
Married (opposite sex)	62 (5.5)	7 (8.3)	10 (5.0)	44 (5.2)
Cohabiting (opposite sex)	17 (1.5)	1 (1.2)	4 (2.0)	11 (1.3)
Dating (opposite sex)	34 (3.0)	8 (9.5)	13 (6.5)	13 (1.5)
Married (same sex)	36 (3.2)	0 (0)	0 (0)	36 (4.3)
Cohabiting (same sex)	276 (24.4)	7 (8.3)	16 (8.0)	252 (29.8)
Dating (same sex)	166 (14.7)	7 (8.3)	34 (16.9)	126 (14.9)
Single	540 (47.7)	53 (63.1)	124 (61.7)	363 (42.9)
<b>Family income***</b>				
≤\$60,000	554 (49.0)	49 (58.9)	138 (68.7)	367 (43.4)
>\$60,000	576 (51.0)	34 (41.1)	63 (31.3)	479 (56.6)
<b>HIV status***</b>				
Positive	191 (16.9)	9 (10.7)	3 (1.5)	179 (21.2)
Negative	940 (83.1)	75 (89.3)	198 (98.5)	666 (78.8)
<b>Sexual orientation***</b>				
Gay identity	825 (72.9)	21 (25.0)	109 (54.2)	695 (82.2)
Bisexual identity	261 (23.1)	47 (56.0)	85 (42.3)	129 (15.2)
Same-sex behavior	44 (3.9)	16 (19.0)	7 (3.5)	21 (2.5)
<b>Disclosure age</b>				
<18 years old	231 (20.4)	0 (0.0)	45 (22.4)	186 (22.0)
18+ years old	899 (79.6)	84 (100.0)	156 (77.6)	659 (78.0)

Note. Statistical significance for categorical demographic variables evaluated by Wald chi-square test.

\*  $p \leq .05$ . \*\*\*  $p \leq .001$ .

**Concealment and disclosure.** Participants indicated whether, and at what age, they had first told someone that they were lesbian, gay, homosexual, bisexual, or having sex with persons of the same sex in response to the questions: “Have you ever told anyone, like a friend or a family member, that you are (lesbian/gay/homosexual/bisexual/having sex with [men/women])?” and “How old were you when you first told someone that you were (lesbian/gay/homosexual/bisexual/having sex with [men/women])?” These questions were asked for all respondents regardless of sexual orientation (i.e., gay or lesbian, bisexual, MSM or WSW). Participants who indicated that they had not told anyone that they are LGB or MSM or WSW were classified as closeted.

We treated time since first disclosure as a continuous variable except in models that compare time since first disclosure to being

closeted. In these models, we treated being closeted and being out as categories given the inherently categorical nature of being closeted. Thus, for ease of data interpretation when comparing recently out, distantly out, and closeted participants, we supplemented our continuous measure of time since first disclosure by categorizing participants as “recently out” and “distantly out.” We dichotomize length of time out at 8 years based on available evidence regarding average amount of time to achieve LGB identity milestones following first disclosure (Halpin & Allen, 2004; Kahn, 1989). Thus, we categorized participants who were within 8 years of first disclosure as “recently out” and those who had first disclosed at least 9 years prior as “distantly out.”

Analyses comparing out to closeted participants utilized the full sample. Analyses comparing recently out to closeted participants

Table 2

Characteristics of Weighted Female Study Participants ( $N = 953$ ) by Sexual Orientation Disclosure Status in the California Quality of Life Survey

Variable	Full sample	Closeted (0 years) $n = 63$ (6.6%)	Recently out (<9 years) $n = 234$ (24.6%)	Distantly out (9+ years) $n = 656$ (68.8%)
<b>Age***</b>				
18–29	263 (27.6)	11 (17.5)	166 (70.9)	87 (13.3)
30–39	221 (23.2)	9 (14.3)	41 (17.5)	172 (26.2)
40–49	198 (20.8)	20 (31.7)	24 (10.3)	154 (23.5)
50–59	193 (20.3)	16 (25.4)	3 (1.3)	174 (26.5)
60–72	74 (7.8)	7 (11.1)	1 (0.4)	67 (10.2)
73–84	2 (0.2)	1 (1.6)	0 (0)	1 (0.2)
<b>Race or ethnicity†</b>				
Hispanic	159 (16.7)	10 (15.9)	69 (29.5)	80 (12.2)
White	622 (65.3)	35 (55.6)	117 (50.0)	470 (71.6)
Black	99 (10.4)	12 (19.0)	20 (8.5)	66 (10.1)
Asian or Pacific Islander	57 (6.0)	4 (6.3)	26 (11.1)	27 (4.1)
Native American or Alaskan Native	15 (1.6)	1 (1.6)	2 (0.9)	12 (1.8)
<b>Education***</b>				
Less than high school	62 (6.5)	20 (31.7)	15 (6.4)	26 (4.0)
High school degree	179 (18.8)	3 (4.8)	95 (40.6)	81 (12.3)
Some college	270 (28.3)	19 (30.2)	59 (25.2)	193 (29.4)
College	188 (19.7)	9 (14.3)	40 (17.1)	139 (21.2)
Any graduate school	254 (26.7)	11 (17.5)	26 (11.1)	217 (33.1)
<b>Born in United States</b>				
Yes	863 (90.6)	50 (79.3)	214 (91.5)	599 (91.3)
No	90 (9.4)	13 (20.6)	20 (8.5)	57 (8.7)
<b>Relationship status***</b>				
Married (opposite sex)	119 (12.5)	9 (14.3)	22 (9.4)	89 (13.6)
Cohabiting (opposite sex)	62 (6.5)	10 (15.9)	25 (10.7)	28 (4.3)
Dating (opposite sex)	97 (10.2)	14 (22.2)	46 (19.7)	37 (5.6)
Married (same sex)	54 (5.7)	0 (0.0)	0 (0.0)	54 (8.2)
Cohabiting (same sex)	202 (21.2)	2 (3.2)	14 (6.0)	186 (28.4)
Dating (same sex)	120 (12.6)	0 (0.0)	33 (14.1)	87 (13.3)
Single	297 (31.2)	27 (42.9)	96 (41.0)	174 (26.5)
<b>Family income***</b>				
≤\$60,000	509 (53.5)	43 (68.3)	168 (71.8)	298 (45.5)
>\$60,000	443 (46.5)	20 (31.7)	66 (28.2)	358 (54.5)
<b>HIV status</b>				
Positive	3 (0.3)	0 (0.0)	1 (0.4)	2 (0.3)
Negative	950 (99.7)	63 (100)	233 (99.6)	654 (99.7)
<b>Sexual orientation***</b>				
Lesbian identity	442 (46.4)	2 (3.2)	68 (29.1)	372 (56.7)
Bisexual identity	437 (45.9)	32 (50.8)	143 (61.1)	262 (39.9)
Same-sex behavior	73 (7.7)	28 (44.4)	24 (10.3)	22 (3.4)
<b>Disclosure age†</b>				
<18 years old	243 (25.5)	0 (0.0)	80 (34.2)	163 (24.9)
18+ years old	709 (74.4)	63 (100.0)	154 (65.8)	492 (75.1)

Note. Statistical significance for categorical demographic variables evaluated by Wald chi-square test.

†  $p \leq .10$ . \*  $p \leq .05$ . \*\*\*  $p \leq .001$ .

utilized a sample of 582 (285 men; 297 women) participants. Analyses comparing distantly out to recently out participants utilized a sample of 1,937 participants (1,047 men; 890 women). Analyses comparing distantly out to not out participants utilized a sample of 1,647 (929 men; 718 women).

**Disclosure age.** We entered age of initial sexual orientation identity disclosure as a covariate in all relevant models based on research showing associations between early disclosure and mental health problems (e.g., D'Augelli & Grossman, 2001; Friedman, Marshal, Stall, Cheong, & Wright, 2008). We dichotomized disclosure age at 18 based on previous research (Floyd & Bakeman, 2006) and the modal disclosure age in the Cal-QOL sample.

**Major depression and generalized anxiety.** The Cal-QOL measured evidence for past-year major depressive disorder and

generalized anxiety disorder diagnoses using the Composite International Diagnostic Interview—Short Form (CIDI-SF; Kessler, Andrews, Mroczek, Üstün, & Wittchen, 1998). The CIDI-SF is a structured diagnostic interview used in population-based surveys to render rapid DSM-based diagnoses. The screening instrument has been shown to have generally good reliability and validity in other surveys (Wittchen, Kessler, Zhao, & Abelson, 1995).

## Analysis

We analyzed our data using SAS 9.3 using weights to adjust for selection probability, survey nonresponse, and poststratification to the California population. We first used Wald chi-square tests to

examine differences among participants who were closeted, recently out, and distantly out across demographic variables, relationship status, partner gender, sexual orientation, and age of first disclosure. We then estimated our binary outcomes using PROC SURVEYREG, which employs Taylor series estimation and Fisher's iterative maximum likelihood algorithm. First, we compared odds of mental health disorder by outness (i.e., closeted, out). We then limited analyses to out participants to compare odds of mental health disorder by length of time out both continuously and categorically (i.e., recently out, distantly out). Effects were estimated separately by gender and mental health outcome (i.e., major depressive disorder, generalized anxiety disorder). All demographic variables and age of first disclosure, when relevant, were treated as possible confounders given previous research suggesting their associations with sexual orientation identity disclosure and mental health (e.g., Barnes, Hatzenbuehler, Hamilton, & Keyes, 2014; D'Augelli & Grossman, 2001; D'Augelli et al., 1998; Rosario, Schrimshaw, & Hunter, 2004).

## Results

### Who Conceals and Who Discloses?

As shown in Table 1, men who were not out were significantly more likely to be in an opposite-sex relationship,  $\chi^2(1) = 5.22$ ,  $p < .05$ , significantly less likely to be in a same-sex relationship,  $\chi^2(1) = 16.58$ ,  $p < .001$ , and significantly more likely to be single,  $\chi^2(1) = 5.65$ ,  $p < .05$ , than men who were distantly out. Men who were not out were also significantly less likely to identify as gay,  $\chi^2(1) = 28.39$ ,  $p < .001$ , and significantly more likely to identify as bisexual,  $\chi^2(1) = 16.61$ ,  $p < .001$ , and to be categorized as non-LGB MSM,  $\chi^2(1) = 6.74$ ,  $p < .01$ , than men who were distantly out. They reported marginally less education,  $\chi^2(4) = 8.21$ ,  $p = .09$ , lower odds of being born in the United States,  $\chi^2(1) = 2.87$ ,  $p = .09$ , and marginally lower odds of being diagnosed with HIV,  $\chi^2(1) = 3.59$ ,  $p = .06$ , than men who were distantly out.

Male participants who were recently out were significantly younger,  $\chi^2(8) = 76.98$ ,  $p < .001$ , were less likely to be White,  $\chi^2(2) = 9.97$ ,  $p < .01$ , reported lower income,  $\chi^2(2) = 16.99$ ,  $p < .001$ , and were less likely to report being HIV positive,  $\chi^2(2) =$

43.26,  $p < .001$ , than male participants who were closeted or who were distantly out. Compared to men who were not out, those who were recently out were more likely to identify as gay,  $\chi^2(1) = 9.56$ ,  $p < .01$ , and less likely to be non-LGB MSM,  $\chi^2(1) = 5.96$ ,  $p < .05$ . Men who were distantly out were more likely to be in a relationship with another man,  $\chi^2(1) = 15.04$ ,  $p < .001$ , and less likely to be single,  $\chi^2(1) = 8.01$ ,  $p < .01$ , than men who were recently out.

As shown in Table 2, compared to women who were distantly out, women who were not out were more likely to be in an opposite-sex relationship,  $\chi^2(1) = 4.22$ ,  $p < .05$ , less likely to be in a same-sex relationship,  $\chi^2(1) = 16.40$ ,  $p < .001$ , less likely to identify as lesbian,  $\chi^2(1) = 16.97$ ,  $p < .001$ , and more likely to be non-LGB WSW,  $\chi^2(1) = 4.68$ ,  $p < .05$ . They also reported marginally less income,  $\chi^2(1) = 3.19$ ,  $p = .07$ . Compared to women who were not out, those who were recently out reported lower educational attainment,  $\chi^2(4) = 13.64$ ,  $p < .05$ , were more likely to be in a same-sex relationship,  $\chi^2(1) = 6.97$ ,  $p < .01$ , were more likely to identify as lesbian,  $\chi^2(1) = 10.14$ ,  $p < .01$ , and were less likely to be non-LGB WSW,  $\chi^2(1) = 3.97$ ,  $p < .05$ .

Women who were recently out were younger,  $\chi^2(8) = 95.75$ ,  $p < .001$ , and less likely to be White,  $\chi^2(2) = 10.71$ ,  $p < .01$ , than women who were closeted or who were distantly out. Women who were recently out had lower educational attainment,  $\chi^2(4) = 28.18$ ,  $p < .001$ , and income,  $\chi^2(1) = 17.89$ ,  $p < .001$ , than women who were distantly out. They were also more likely to be in an opposite-sex relationship,  $\chi^2(1) = 6.06$ ,  $p < .05$ , or single,  $\chi^2(1) = 5.23$ ,  $p < .05$ , and less likely to be in a same-sex relationship,  $\chi^2(1) = 26.43$ ,  $p < .001$ , than those who were distantly out. They were also less likely to identify as lesbian,  $\chi^2(1) = 19.59$ ,  $p < .001$ , more likely to identify as bisexual,  $\chi^2(1) = 10.65$ ,  $p < .01$ , and marginally more likely to be non-LGB WSW,  $\chi^2(1) = 3.78$ ,  $p = .05$ , than women who were distantly out.

### Is Being Closeted Associated With Poorer Mental Health Than Being Out?

In a model controlling for all covariates and age of coming out (see Table 3), sexual minority men who were closeted experienced 41% lower odds of reporting major depressive disorder compared to men who were out, OR = 0.41; 95% CI [0.17, 0.99],  $p < .05$ .

Table 3  
Odds of Mental Health Disorder by Sexual Orientation Disclosure Status for Sexual Minority Respondents in the California Quality of Life Survey

Disorder	Closeted versus out		Recently out versus closeted	
	OR	95% CI	OR	95% CI
	Men (n = 1,130)		Men (n = 285)	
Major depressive disorder	0.41*	[0.17, 0.996]	6.12*	[1.53, 24.47]
Generalized anxiety disorder	0.59	[0.19, 1.91]	5.51**	[1.51, 20.13]
	Women (n = 953)		Women (n = 297)	
Major depressive disorder	1.96	[0.79, 4.89]	0.21*	[0.05, 0.96]
Generalized anxiety disorder	0.90	[0.22, 3.65]	0.94	[0.15, 5.99]

Note. All models are adjusted for survey wave, age, race or ethnicity, education, non-U.S.-born status, relationship status, family income, and HIV status (male only). OR = odds ratio; CI = confidence interval.

\*  $p \leq .05$ . \*\*  $p \leq .01$ .

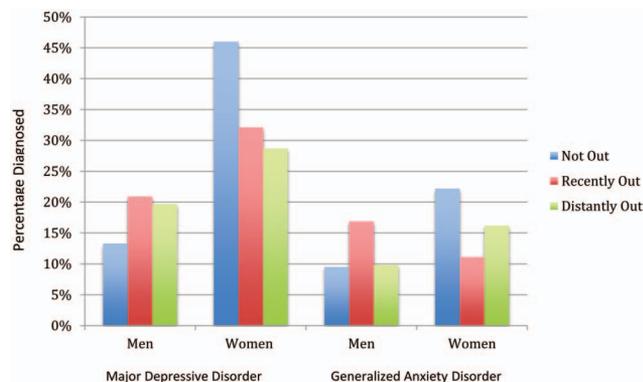


Figure 1. Odds of major depressive disorder and generalized anxiety disorder by sexual orientation outness for sexual minority respondents in the California Quality of Life Survey. See the online article for the color version of this figure.

(see Figure 1). Conversely, women who were closeted experienced about twice the odds of reporting major depressive disorder than women who were out,  $OR = 1.96$ ; 95% CI [0.76, 4.89],  $p = .15$ , although this effect was not statistically significant. No significant differences were found in the odds of reporting generalized anxiety disorder between closeted and out male or female sexual minority participants (see Table 3). In identical analyses that excluded the few ( $n = 17$ ) closeted participants in same-sex relationships who were at least ostensibly out to their partners, we found near-identical results.

### Is Being Recently Out Associated With Poorer Mental Health Than Being Closeted?

As reported in Table 3 and depicted in Figure 1, sexual minority men who were recently out were more likely to report major depressive disorder than those who were closeted,  $OR = 6.12$ ; 95% CI [1.53, 24.47],  $p < .05$ . The opposite association was found for sexual minority women, with sexual minority women who were recently out being less likely to report major depressive disorder than

those who were closeted,  $OR = 0.21$ ; 95% CI [0.05, 0.96],  $p < .05$ . As shown in Table 3, sexual minority men who were recently out were significantly more likely to report generalized anxiety disorder than those who were closeted,  $OR = 5.51$ ; 95% CI [1.51, 20.13],  $p < .001$ . No significant difference in odds of reporting generalized anxiety disorder was found for closeted versus recently out women (see Table 3). In identical analyses that excluded the few ( $n = 17$ ) closeted participants in same-sex relationships, we found similar results.

### Is Being Recently Out Associated With Poorer Mental Health Than Being Distantly Out?

For out men, we found a trend for a negative relationship between length of time out, measured continuously, and odds of generalized anxiety disorder,  $OR = 0.96$ ; 95% CI [0.92, 1.01],  $p = .08$ . We found no significant association between length of time out and generalized anxiety disorder for out women,  $OR = 0.99$ ; 95% CI [0.95, 1.05],  $p = .93$ , or length of time out and major depressive disorder for out men,  $OR = 0.99$ ; 95% CI [0.95, 1.04],  $p = .77$ , or women,  $OR = 1.00$ ; 95% CI [0.97, 1.04],  $p = .84$ . As shown in Table 4, when dichotomized into “recently out” and “distantly out,” male participants who were distantly out experienced marginally significantly lower odds of reporting generalized anxiety disorder than participants who were recently out,  $OR = 0.35$ ; 95% CI [0.12, 1.03],  $p = .056$ . This relationship became significant when length of time out was dichotomized at 9, instead of 8, or more years—for example, when dichotomized at 9 years,  $OR = 0.22$ ; 95% CI [0.09, 0.56],  $p < .01$ . Significant relationships between dichotomized length of time out and generalized anxiety disorder were not found for women; significant relationships between dichotomized length of time out and major depressive disorder were not found for men or women (see Table 4).

### Is Being Distantly Out Associated With Poorer Mental Health Than Being Closeted?

Men who were distantly out were significantly more likely than men who were closeted to have experienced recent major depres-

Table 4  
Odds of Mental Health Disorder by Sexual Orientation Disclosure Status for Sexual Minority Respondents in the California Quality of Life Survey

Disorder	Distantly out versus recently out <sup>a</sup>		Distantly out versus closeted	
	OR	95% CI	OR	95% CI
	Men ( $n = 1,047$ )		Men ( $n = 929$ )	
Major depressive disorder	1.35	[0.52, 3.50]	2.91*	[1.10, 7.69]
Generalized anxiety disorder	0.35 <sup>†</sup>	[0.12, 1.03]	1.40	[0.42, 4.62]
	Women ( $n = 890$ )		Women ( $n = 718$ )	
Major depressive disorder	1.73	[0.85, 3.52]	0.56	[0.24, 1.31]
Generalized anxiety disorder	2.09	[0.73, 6.00]	1.08	[0.32, 3.67]

Note. All models are adjusted for survey wave, age, race or ethnicity, education, non-U.S.-born status, relationship status, family income, and HIV status (male only). OR = odds ratio; CI = confidence interval.

<sup>a</sup> Model also adjusted for age of first disclosure.

<sup>†</sup>  $p \leq .10$ . \*  $p \leq .05$ .

sive disorder, OR = 2.91; 95% CI [1.10, 7.69],  $p < .05$ . No significant differences were found between men who were distantly out and closeted in odds of generalized anxiety disorder (see Table 4 and Figure 1). No significant differences were found between women who were distantly out and closeted for either disorder (see Table 4 and Figure 1). In identical analyses that excluded the few ( $n = 17$ ) closeted participants in same-sex relationships, the relationship between being distantly out compared to being closeted and major depression became stronger, OR = 4.66; 95% CI [1.46, 14.84],  $p < .01$ .

## Discussion

This study employed a population-based sample of sexual minority individuals to examine the demographic and mental health correlates of being in and out of the closet as well as associations between mental health and length of time out in the general adult population. This approach provided a unique and potentially more accurate picture than has previously existed. Our results suggest that the mental health correlates of being in and out of the closet in adulthood largely depend on gender. Men who were recently out were at higher risk for major depressive disorder and generalized anxiety disorder than men who were closeted. Men who were recently out also reported marginally significantly higher odds of generalized anxiety disorder than men who were distantly out. Men who were distantly out reported higher odds of major depressive disorder than men who were closeted. Finally, men who were closeted appear to avoid the high odds of experiencing major depression faced by those who were out.

For sexual minority women, a somewhat opposite pattern of associations was found, whereby being closeted was associated with higher odds of reporting depression than being recently out. Compared to women who were distantly out, women who were recently out did not report higher odds of mental health problems. Overall, results suggest that the closet is associated with mental health advantages for men but disadvantages for women and that being recently out is associated with increased odds of major depression and generalized anxiety disorder for men compared to being closeted, which, in the case of generalized anxiety disorder, dissipate with distance from the closet.

One explanation for the gender-specific pattern of associations between outness and mental health found in our study could be the differential forms of minority stress experienced by sexual minority men compared to women (Meyer, 2003). Traditionally, societal prejudice has been thought to be disproportionately directed toward sexual minority men in the United States compared to sexual minority women, presumably because of the more tightly constrained gender roles that exist for men and the threat that male homosexuality poses to those roles (Herek, 2000). Thus, compared to men in the closet and women, men who are recently out may experience discrimination that accompanies gender role violations. For gay and bisexual men who internalize this stigma, this internalization may result in chronic hypervigilance for detecting and trying to avoid future stigma (Pachankis et al., 2008). This may explain why men who are recently out are significantly more likely to experience generalized anxiety disorder than closeted men. Recently out men also experience more major depression than those who are closeted, and this disparity persists among those who are distantly out, also arguing for the mental health toll of a

lifetime accumulating stigma exposure (e.g., Gee et al., 2012; Pearlin et al., 2005; Pollitt et al., 2005).

Further, sexual minority men who are out might encounter stressors embedded within gay male communities. For example, recent research suggests that depressed and anxious sexual minority men attribute some of their stress to the challenges of navigating the gay male community, which they see as achievement- and status-focused and valuing strict conformity to masculinity (Pachankis, 2014), possibly reflecting an internalization of larger societal homophobia and gender role conformity. These aspects of the gay male community have been shown to be associated with poorer mental health in convenience samples of sexual minority men (Pachankis & Hatzenbuehler, 2013; Sánchez, Greenberg, Liu, & Vilain, 2009). Thus, our finding that being recently out is associated with higher odds of mental health problems for men but not for women is consistent not only with research regarding the mental health correlates of stigma-related stress facing sexual minority men but also with research suggesting that some of this stress might be experienced as emerging from experiences within the gay male community.

Closeted women in this study reported higher odds of major depressive disorder than recently out women, possibly given the ways in which heterosexual interactions and institutions disproportionately disadvantage women's well-being (e.g., Ridgeway & Smith-Lovin, 1999). Compared to closeted men, closeted women in this study were more likely to be involved in a heterosexual relationship. Women in unsatisfactory relationships are disproportionately likely to experience poorer health and well-being, partly due to women's greater socioemotional attunement compared to men (Kiecolt-Glaser & Newton, 2001). Further, compared to the mental health profiles of out sexual minorities, the mental health profiles of closeted sexual minority women and men might be more similar to the general, presumably heterosexual, population, especially if they are more exposed to heterosexual interactions and institutions. In the general population, women are about twice as likely to report major depressive disorder and generalized anxiety disorder than men (Culbertson, 1997; Wittchen, Zhao, Kessler, & Eaton, 1994), a much stronger gender disparity than is typically found among out sexual minority samples (e.g., Cochran et al., 2003). Another explanation for closeted women's greater risk of depression is that concealment might be particularly stressful for women compared to men either because of gender-specific coping styles (e.g., Hankin & Abramson, 2001) or an additive or synergistic effect that concealment might have on other stressors to which women are disproportionately exposed, such as economic disadvantage (e.g., Ridgeway & Smith-Lovin, 1999). Women's gender represents a salient risk factor for depression, whether it is from being female in a heterosexual context or being closeted about same-sex interactions.

We also investigated the demographic profile of sexual minority men and women in and out of the closet. Men who were not out were more likely to be in an opposite-sex relationship or single and less likely to be in a same-sex relationship than men who were distantly out. Men who were not out were less likely to identify as gay and more likely to be categorized as non-LGB MSM than men who were out; men who were not out were more likely to identify as bisexual compared to men who were distantly out. Men who were distantly out were more likely to be in a relationship with another man and less likely to be single than men who were

recently out. Compared to women who were out, women who were not out were less likely to be in a same-sex relationship or identify as lesbian and more likely to be non-LGB WSW. Compared to women who were distantly out, women who were not out were more likely to be in an opposite-sex relationship. Women who were recently out were more likely to be in an opposite-sex relationship or single and less likely to be in a same-sex relationship than those who were distantly out. They were also less likely to identify as lesbian and more likely to identify as bisexual than women who were distantly out.

The present study contains several strengths. Most studies on the mental health correlates of sexual orientation concealment and disclosure rely on samples of out individuals and measure concealment and disclosure as fluctuating phenomena (e.g., [Beals et al., 2009](#); [Pachankis et al., 2011](#)) or general personal tendencies (e.g., [Frost et al., 2007](#); [Schrimshaw et al., 2013](#)). Previous research on the topic has also typically utilized nonprobability samples recruited in specific contexts, such as adolescents during the early coming-out process (e.g., [Hershberger et al., 1997](#); [Rosario et al., 2001](#)) or working adults in the workplace (e.g., [Huebner & Davis, 2005](#)). These studies provide important information regarding the experiences of individuals who are forming a sexual minority identity or who are navigating their identities in a specific context but do not capture the mental health correlates of being in and out of the closet across sexual minority adults in the general population. Using a population-based sample of adults and interviewer-based assessments of identity development milestones and mental health problems, this study estimates the odds of experiencing depression and anxiety depending on one's outness status—from closeted to distantly out—and resolves inconsistencies found between concealment and disclosure and mental health in previous nonprobability research. Consequently, this study complements other recent population-based studies that have examined mental health disparities *within* sexual minority populations—for example, by sexual orientation status (e.g., gay or lesbian vs. bisexual; [Bostwick, Boyd, Hughes, & McCabe, 2010](#)) and age ([Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013](#))—and contributes needed nuance to the survey of sexual minority adult mental health in the general population.

Several limitations of the present study should be considered when interpreting these results and planning future studies. Recall of sexual identity milestones is likely subject to retrospective reporting bias, although the degree and direction of this bias remain unknown ([Calzo, Antonucci, Mays, & Cochran, 2011](#)). Our approach to capturing whether and when individuals first disclosed their sexual orientation to any other person likely introduced heterogeneity in our disclosure measure. For example, disclosing to a mental health professional likely represents a different milestone than disclosing to a close family member, with different implications for mental health, although both disclosures would serve as the beginning of outness according to our approach. Further, an individual might disclose to a single person but not disclose to anyone else for another decade or more. In our analyses, such a person would be classified as distantly out, although they have likely not yet formed an integrated sexual minority identity. Disclosure of a bisexual identity or, for non-LGB-identified individuals, MSM or WSW behavior likely represents a different process with different mental health consequences than disclosure of a lesbian or gay identity. Lower levels of community

connection, antibisexual prejudice from both heterosexuals and lesbian and gay communities, and presumed monosexuality place unique disclosure stressors on individuals who are bisexual or non-LGB-identified MSM or WSW ([Balsam & Mohr, 2007](#)). Bisexual identities or MSM or WSW behavior, in fact, are often presumed to be nonexistent for bisexuals or MSM or WSW in same-sex and heterosexual relationships, potentially requiring an additional disclosure process ([Rust, 2000](#); [Schrimshaw et al., 2013](#)). Additionally, given evidence for fluidity in sexual behavior and identity, especially among women ([Diamond, 2008](#)), individuals might disclose different sexual identities or behaviors across the life course, with earlier disclosures either potentiating or attenuating mental health consequences of subsequent disclosures. However, our measure of sexual orientation disclosure was incapable of capturing this variability.

Although we utilized a probability-based design, selection bias may nonetheless influence our results. Why closeted individuals in our study chose to disclose their behavior and/or identity to a study telephone interviewer, but not family, friends, or close others, remains unknown. How these individuals differ from closeted sexual minority individuals who did not acknowledge their behavior or identity to the interviewer, and therefore are not included in our closeted sample, also remains unknown. It is possible that closeted individuals who disclosed to study interviewers possessed more self-awareness than closeted individuals who did not disclose to the interviewer. Although uncovering such differences is impossible using self-reported concealment, research using technological advancements embedded in people's daily lives, such as Internet search activity, can begin to address previously unknowable facts about the closet, including estimates of the size of the closeted population ([Stephens-Davidowitz, 2014](#)). In addition, our sample is drawn from California, which, despite containing a diverse population, may not adequately represent other U.S. populations. Finally, several personal and environmental factors might moderate associations between outness and mental health, including structural stigma, cohort, socioeconomic status, race or ethnicity, family support, and religiosity. While investigating these contextual influences is beyond the scope of the present investigation, recent research is beginning to reveal the importance of considering the influence of such factors on sexual orientation concealment and health (e.g., [McGarrity & Huebner, 2014](#); [Pachankis et al., 2015](#)). An intersectionality perspective could usefully extend this research beyond statistical tests of interaction to capture the nuanced meaning and mental health consequences of possessing multiple stigmatized identities, both concealable and visible, in contexts of inequality across the life course ([Carbado, Crenshaw, Mays, & Tomlinson, 2013](#); [Clarke & McCall, 2013](#); [Cole, 2009](#)).

Sexual minority individuals are more likely than heterosexuals to seek mental health services ([Cochran et al., 2003](#); [Grella, Greenwell, Mays, & Cochran, 2009](#)), but empirically supported guidance for implementing LGB-affirmative mental health practice is scarce. In fact, no study to date has been conducted to determine the efficacy of LGB-affirmative psychotherapy practice against standard treatment ([Cochran, 2001](#)). The results of the present study help identify parameters that should be considered in LGB-affirmative mental health care—namely, that there are differences in mental health consequences of being out and closeted that differ by both gender and stage of those experiences. Providing effective therapy to LGB populations requires that providers

understand and address the unique mental health concerns facing the diverse population of LGB individuals across development (e.g., *American Psychological Association*, 2012). Specifically, our results suggest that clinicians should be prepared to help sexual minority men who are recently out or considering coming out to cope with sources of depression and anxiety that may arise upon initial disclosure. Because these results also suggest that sexual minority men's odds of experiencing generalized anxiety disorder will decrease several years after first disclosure, clinicians can help facilitate a healthy integration of one's gay or bisexual identity with an overall sense of self to encourage improved mental health. A cognitive-behavioral treatment approach has been found to be preliminarily efficacious for reducing depression and anxiety among young adult gay and bisexual men by normalizing the mental health consequences of stigma, reworking negative cognitions stemming from stigma, validating sexual minority individuals' unique strengths, and facilitating supportive relationships (Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, in press).

Mental health professionals should carefully assess sexual orientation, even when not apparent, especially given our findings that closeted women are particularly burdened by depression. Outreach strategies that encourage closeted women to seek mental health services would also represent an important public health strategy given this burden. Clinicians might wish to help sexual minority women consider the sources of stress they face in the closet while exploring the possibility that these stressors might change, or be lessened, upon disclosing a lesbian or bisexual identity. Sexual minority women who are closeted and in heterosexual relationships may be the primary caretakers of children and other family members (Gates, 2011). Therefore, decreasing depression and increasing positive mental health can improve outcomes not just for sexual minority women but also for others in their interpersonal networks. Of course, clinicians working with any sexual minority individuals who are recently out or who are considering coming out must affirm their clients' present identities, including bisexual identities and the experience of non-LGB MSM and WSW; understand the contextual factors that shape these identities and experiences; and help their clients assess the relative degree of safety or threat in their environments to ensure personal safety and thriving upon disclosure. Finally, psychologists should promote open self-expression as a right of all individuals and promote the environmental conditions that facilitate it, regardless of individuals' sexual orientation and regardless of associations between outness and mental health.

In conclusion, results suggest that being in and out of the closet can be associated with major depressive and generalized anxiety disorders among sexual minority adults in the general population, depending on gender. Among men, being closeted is associated with lower odds of depression than being out, while being recently out is associated with higher odds of experiencing generalized anxiety disorder than being closeted. Men's odds of major depressive disorder are highest when they are recently out. Among women, being closeted is associated with higher odds of depression than being recently out. Future research ought to explore additional mechanisms, especially those that might explain gender differences in the association between outness and mental health, as well as the unique experiences of sexual minority men and women who have never disclosed their sexual orientation to another person. Mental health providers can use these findings to

guide assessment and treatment considerations when working with sexual minority clients across the spectrum of sexual orientation concealment and disclosure and can incorporate these findings into future efficacy tests of LGB-affirmative treatments.

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