Work and Health

IMPLICATIONS OF DISCRIMINATION BASED ON SEXUALITY, GENDER, AND RACE/ETHNICITY FOR PSYCHOLOGICAL DISTRESS AMONG WORKING-CLASS SEXUAL MINORITIES: THE UNITED FOR HEALTH STUDY, 2003–2004

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This study investigated the distribution of demographic characteristics, the prevalence of discrimination based on sexuality, gender, and race, and relationships with psychological distress among 178 working-class sexual minorities (i.e., who identified as lesbian, gay, or bisexual (LGB) or had ever engaged in same-sex sexual behaviors) recruited to the United for Health Study (2003–2004). The results indicated considerable heterogeneity in responses to items assessing sexual orientation and sexual behavior, with a majority of sexual minority participants not identifying as LGB (74.2%). The authors found significant demographic differences in LGB identification by gender, race/ethnicity, nativity, and socioeconomic factors. In addition, LGB participants had higher levels of psychological distress than non-LGB-identified sexual minorities. Linear regression analyses revealed that reports of racial/ethnic discrimination and sexuality discrimination were associated with higher levels of psychological distress among sexual minority participants. The results underscore the need to collect multiple measures of sexuality in conducting research on racially diverse working-class communities; to consider demographic factors in collecting sexuality data; and to disaggregate information on sexuality by LGB identification. Findings also highlight the importance of addressing discrimination in ameliorating problematic mental health outcomes among working-class sexual minorities.

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Epidemiological studies have consistently found evidence for mental health disparities by sexual orientation and sexuality in the United States (1–5). For example, a study of midlife adults found that lesbian/bisexual women and gay/bisexual men had a higher prevalence of past-year psychiatric disorders compared with their heterosexual counterparts (44% vs. 25% for women; 40% vs. 17% for men) (4). Another study, using a behavioral measure to assess sexuality, found that women and men who reported having same-sex partners were more likely to meet criteria for having any past-year psychiatric disorder than were those who reported having only opposite-sex partners (5). Studies specifically conducted on Asian, black, and Latino lesbian, gay, or bisexual (LGB) men and women also suggest a high prevalence of mental health problems (6–8). Furthermore, issues of psychological distress may be a greater concern in working-class and other less-affluent communities, in the light of evidence suggesting negative relationships between income and mental health (e.g., 9, 10).

Elevated levels of psychiatric morbidity in LGB communities and among those who engage in same-sex behaviors may be explained by the disproportionate experience of social stressors, including verbal and physical violence and institutional and interpersonal forms of discrimination and prejudice (6–8, 11–21). For example, a study of LGB adults found evidence that self-reported experiences of discrimination may mediate the relationship between sexuality and psychological distress (21). In addition, studies conducted on LGB racial/ethnic minorities have found evidence for the adverse effect of both racial/ethnic discrimination and experiences of homophobia on mental health, suggesting that additional social stressors associated with being racial/ethnic minorities may have particularly detrimental mental health consequences for Asian, black, and Latino LGB individuals (6–8, 13, 18–22). Although few studies have examined the influence of gender discrimination in these groups, those conducted in general population samples have found that such experiences may also be associated with worse mental health outcomes, particularly among women (23, 24).

Despite the growing literature on mental health disparities by sexuality and increasing evidence that experiences of discrimination, as sources of psychosocial stress, have negative implications for mental health, existing studies face several limitations. Most studies have recruited participants through the use of convenience or otherwise self-selected samples of individuals who identify as LGB. Using narrower definitions of sexuality based on self-identified sexual identity potentially ignores other dimensions of sexuality, such as behavior and desire (25), and may subsequently underestimate the diversity of non-heterosexual sexualities in the population. In addition, failing to include measures of sexuality aside from self-identified sexual orientation may be particularly problematic in conducting research on non-white communities. For example, previous studies have found that black and Latino men who have sex with men (MSM) are less likely to identify as gay than are white MSM (26, 27). Accordingly, studies that aggregate participants who identify as LGB with those who engage in

same-sex behaviors may obscure sociodemographic and health differences between these groups.

Furthermore, relatively few studies have included sexual minority women in analyzing discrimination and mental health outcomes, and only a handful have examined multiple forms of discrimination concurrently, such as gender and racial/ethnic discrimination, in addition to the experience of discrimination based on sexuality. Few studies have explicitly focused on working-class populations. No studies, to our knowledge, have investigated associations between sexuality, discrimination, and psychological distress in a sample of employed, working-class individuals, who may be at greater risk for mental health problems than more affluent groups and who, by virtue of being employed, are also susceptible to social hazards in the workplace.

Using data from the United for Health Study (2003–2004), a study of unionized workers, we address some of these limitations and gaps in knowledge. In the current study, we examined relationships between self-reported experiences of discrimination and psychological distress in a working-class sample of sexual minorities. Consistent with previous literature, we defined sexual minorities as those who identity as LGB or who engage in same-sex sexual behaviors but do not necessarily identify as LGB (28, 29–31). Our study sought to: (*a*) describe the distribution of responses to measures assessing self-identified sexual orientation and sexual behaviors in a working-class sample; (*b*) use a more inclusive definition of sexual minority status, incorporating self-identification and behavioral dimensions, and to compare those who identify as LGB with those who report having engaged in same-sex behaviors but do not identify as LGB; and (*c*) investigate associations of self-reported experiences of discrimination based on sexuality, gender, and race/ethnicity with psychological distress among sexual minority participants.

METHODS

Study Population

The protocols of the United for Health Study have been described elsewhere (32, 33). Briefly, the United for Health Study targeted workers between 25 and 64 years of age in the Boston, Massachusetts, area from March 2003 to August 2004, through labor unions. Participants were recruited from a variety of workplaces, including retail, transportation, and manufacturing industries. Recruitment through labor unions provided several advantages, including: (*a*) access to diverse work settings that may be associated with distinct exposures; (*b*) the recruitment of workers independent of management; and (*c*) the ability to involve union leaders in the conduct of the study and the dissemination of findings. Of the 2,323 workers on union lists of the sites that agreed to participate, 359 could not be contacted. Of the 1,954 remaining participants, 443 were ineligible, 197 refused, and 32 did not arrive for the interview. Of the 1,282 participants who

completed the survey, 80 were excluded due to missing age or because they were younger than 25 or were 65 or older. A total of 1,202 participants comprised the analytic dataset of the United for Health Study.

Study staff worked with union leadership and worksite managers to tailor recruitment protocols to individual worksites. Introductory letters were sent to those on union member lists who were screened for eligibility and recruited on-site. The survey instrument was administered using Audio-Computer Assisted Self-Interviewing (ACASI), typically during work hours in a private room at the worksite (40 to 45 minutes), followed by a 15-minute health check. The questionnaire was available in English and Spanish, translated using standard translation/back-translation techniques. Managers and union leaders had no access to the data-collection process, and informed consent was obtained for all participants. All study procedures were approved by the institutional review boards and human subjects committees of Dana-Farber Cancer Institute, the Harvard School of Public Health, and the University of Massachusetts, Amherst.

Measures

Sexuality. Sexuality was assessed by two items measuring self-identified sexual orientation and sexual behaviors. Sexual orientation was measured by a single item that asked participants whether they considered themselves "straight/heterosexual," "lesbian or gay," "bisexual," or "other." In the current study, participants who reported being "lesbian or gay" or "bisexual" were grouped as "lesbian, gay, or bisexual." Sexual behavior was measured with a single item assessing whether, since being sexually active, sexual partners have been "all men," "mostly men," "equally men and women," "mostly women," "all women," or "does not apply." In the current study, participants who reported any sexual partners of the same sex (all, mostly, or equally of the same sex) were classified as having "any same-sex behavior." The distribution of responses to these items is presented in Table 1.

A composite sexuality variable was constructed based on self-identified sexual orientation and self-reported sexual behaviors. "Non-LGB-identified" sexual minorities were defined as those who reported being straight/heterosexual or who had missing information on sexual orientation but reported engaging in any same-sex behaviors. Participants were classified as "LGB-identified" sexual minorities if they reported being LGB and reported engaging in any same-sex behaviors, or identified as LGB but were missing information on sexual behavior. "Straight/heterosexual" participants were defined as those who reported being straight and had only opposite-sex behaviors or were missing data on sexual behavior, or had missing sexual orientation but reported only opposite-sex behaviors.

Twenty-one participants (1.7%) reported being lesbian, gay, or bisexual, but reported engaging in only opposite-sex behaviors. Closer examination of

Table 1

Self-reported sexual orientation and sexual behavior among participants in the United for Health Study, Greater Boston Area, Massachusetts, 2003–2004, n (%)

	Sexual behavior			
Sexual orientation	Only opposite sex	Any same-sex	Missing or not applicable	Total
Straight/heterosexual	771 (64.1)	114 (9.5)	71 (5.9)	956 (79.5)
Lesbian, gay, bisexual	21 (1.7)	33 (2.7)	13 (1.1)	67 (5.6)
Missing/other	86 (7.2)	18 (1.5)	75 (6.2)	179 (14.9)
Total	878 (73.0)	165 (13.7)	159 (13.2)	1,202 (100.0)

these participants revealed that they may have misunderstood the categories of sexual orientation, or that the Spanish version of the measure may have lacked cultural equivalence. Supporting this were three findings: (*a*) 63.2 percent of those who reported being LGB but reported engaging in only opposite-sex behaviors were foreign-born, compared with 49.8 percent of remaining participants; (*b*) 61.9 percent of this group were Latino, compared with 22.8 percent for other participants; and (*c*) 61.9 percent of this group were given the survey in Spanish, compared with 16.2 percent for remaining participants. Therefore, these 21 participants were categorized as having "unknown" sexuality.

Discrimination. Experience of sexuality discrimination was measured with a single item assessing whether participants had "ever been discriminated against, been prevented from doing something, or been hassled or made to feel inferior" because of their "sexual orientation or identity"—that is, because they are "lesbian, gay, heterosexual, or bisexual" (18). Possible responses were "yes" or "no," reflecting whether the participant had "ever" or "never" experienced sexuality discrimination. Experience of gender discrimination was measured with a parallel item assessing discrimination because of "gender"—that is, because the individual is a "woman or a man" (18, 34). Possible responses were "yes" or "no," reflecting "ever" or "never" experiencing gender discrimination. Racial/ethnic discrimination was measured using the situation version of the Experiences of Discrimination (EOD) questionnaire developed by Krieger (18, 33, 35). Participants were asked whether they had "ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior" because of their "race, ethnicity, or color" in nine situations: getting a job; at work; getting housing; getting medical care; getting service at a store

or restaurant; getting credit; getting bank loans or a mortgage; on the street or in other public settings; or from the police or in the courts. Participants were categorized in relation to how many situations they endorsed as "yes": none; 1 to 2 situations; 3 or more situations.

Psychological Distress. Psychological distress was measured with the K6, a six-item scale developed by Kessler and colleagues (36, 37) to assess symptoms of psychological distress in the past 30 days. Items were measured on a five-point Likert-type scale ranging from "never" to "all the time." In cases where one of the six items was missing (fewer than 20% of the items), missing values were substituted with the within-participant mean for the remaining items (38). Summed scores ranged from 0 to 24, with greater scores representing higher levels of psychological distress. Reliability and validity of the K6 in the general population and in black and Latino communities have been reported by others (36, 37).

Sociodemographic Characteristics. Demographic characteristics examined in this study included: gender, age, relationship status, race/ethnicity, nativity, education, and hourly wage in relation to the estimated living wage in Boston in 2003—an hourly wage of $10.54 at the time of the survey (39). We assessed poverty level based on self-reported household income, taking into account the number of adults and children under 18 years of age supported by household income (40). Additional variables included worksite industry and survey language. We also assessed social desirability bias by using five items from the Socially Desirable Response Set (SRDS-5) to measure response bias to sensitive questions (41).

Statistical Analysis

Analyses were conducted to describe the distribution of sociodemographic variables, sexuality discrimination, gender discrimination, racial/ethnic discrimination, and psychological distress. We examined differences in these characteristics by using chi-square tests for categorical variables and analysis of variance (ANOVA) for continuous variables.

Multivariable linear regression analyses were conducted to examine psychological distress in relation to self-reported experiences of discrimination based on sexuality, gender, and race/ethnicity among sexual minority participants, controlling for covariates that we considered conceptually important a priori (sexuality, gender, race/ethnicity, age, nativity, relationship status, social desirability bias, and worksite). We did not control for survey language, given its strong association with nativity and race. We also did not include education or hourly wage, which were not significantly associated with psychological distress and did not show evidence of confounding. We did control for poverty level as a measure of socioeconomic position.

We examined patterns of missing data with regard to gender, race/ethnicity, age, nativity, relationship status, social desirability bias, worksite, and poverty level. A total of 35 sexual minority participants (19.7%) had missing data on any of these variables. We compared participants with missing data and those with complete data, and found that those with any missing data had significantly higher levels of psychological distress ($t = 2.66$, $p = 0.009$) and lower levels of social desirability bias ($t = 2.04$, $p = 0.043$). We found no evidence for significant differences on any remaining variables.

We chose not to use listwise deletion in multivariable analyses, because doing so would have resulted in artificially lower levels of psychological distress and higher levels of social desirability bias in the sample. Instead, we excluded only six participants with missing information on psychological distress, resulting in a total sample size of 172 for multivariate analyses. For all remaining variables, we used multiple imputation by a Markov chain Monte Carlo (MCMC) method to generate five imputations for missing variables assuming an arbitrary missing data pattern (42, 43), which we found evidence for given the non-significant differences on all remaining variables. Imputed values were truncated to fit the bounds of possible values but were not rounded, because doing so has been shown to potentially bias estimates (44, 45). Multiple imputation properly takes into account the uncertainty inherent in missing data, leading to valid statistical inferences. All analyses were conducted using SAS statistical software, and we used the PROC MIANALYZE procedure to obtain final estimates from analyses through multiple imputation (42, 46).

RESULTS

Sociodemographic Characteristics

Of the 1,202 participants, 928 (77.2%) were classified as straight/heterosexual, 96 (8.0%) as of "unknown" sexuality, and 178 (14.8%) as sexual minorities. Of the 178 sexual minority participants, 46 (25.8%) identified as LGB. Initial descriptive analyses revealed that sexual minority participants had higher levels of psychological distress than did straight/heterosexual participants (means: 8.4 vs. 7.6; $p < 0.05$). In addition, sexual minority participants were more likely to report discrimination based on sexuality than were straight/heterosexual participants (17.9% vs. 6.2%; $p < 0.001$). However, there were no significant differences in reports of gender discrimination (23.7% vs. 19.5%) or racial/ethnic discrimination (none: 37.9% vs. 44.5%; 1 to 2 situations: 25.3% vs. 24.6%; 3 or more situations: 36.8% vs. 30.9%).

Sociodemographic comparisons examining differences in LGB identification among sexual minority participants are presented in Table 2. Results revealed that women were more likely to identify as LGB than were men; white participants were more likely to identify as LGB than other racial/ethnic groups; and

Table 2

Demographic and psychosocial characteristics of sexual minority participants in the United for Health Study, Greater Boston Area, Massachusetts, 2003–2004

	Non-LGB-identified (n = 132)	LGB-identified (n = 46)	Total (n = 178)
Gender, n (%)***			
Men	108 (83.1)	22 (52.4)	130 (75.6)
Women	22 (16.9)	20 (47.6)	42 (24.4)
Race/ethnicity, n (%)***			
White	19 (15.0)	19 (43.2)	38 (22.2)
Black	70 (55.1)	8 (18.2)	78 (45.6)
Latino	23 (18.1)	10 (22.7)	33 (19.3)
Other	15 (11.8)	7 (15.9)	22 (12.9)
Age, mean (SD)	46.6 (8.4)	45.9 (10.4)	46.4 (8.9)
Nativity, n (%)*			
U.S.-born	52 (41.3)	27 (61.4)	79 (46.5)
Foreign-born	74 (58.7)	17 (38.6)	91 (53.5)
Survey language, n (%)			
English	115 (87.1)	39 (84.8)	154 (86.5)
Spanish	17 (12.9)	7 (15.2)	24 (13.5)
Worksite, n (%)***			
Transportation	68 (51.5)	9 (19.6)	77 (43.3)
Retail	34 (25.8)	23 (50.0)	57 (32.0)
Manufacturing	30 (22.7)	14 (30.4)	44 (24.7)
Education, n (%)			
College or more	9 (7.3)	6 (14.3)	15 (9.1)
Some college	25 (20.3)	6 (14.3)	31 (18.8)
High school degree	50 (40.7)	14 (33.3)	64 (38.8)
<12th grade	39 (31.7)	16 (38.1)	55 (33.3)
Hourly wage, n (%)*			
$15.81 or more	59 (47.2)	13 (31.7)	72 (43.4)
$13.17–15.80	11 (8.8)	1 (2.4)	12 (7.2)
$10.55–13.16	17 (13.6)	12 (29.3)	29 (17.5)
$6.00–10.54	38 (30.4)	15 (36.6)	53 (31.9)
Poverty level, n (%)			
<100% poverty	64 (53.8)	19 (42.2)	83 (50.6)
100%–199% poverty	19 (16.0)	13 (28.9)	32 (19.5)
≥200% poverty	36 (30.3)	13 (28.9)	49 (29.9)
Relationship status, n (%)*			
Married/partner	77 (61.6)	19 (44.2)	96 (57.1)
Single	22 (17.6)	17 (39.5)	39 (23.2)
Divorced, separated, widowed	26 (20.8)	7 (16.3)	33 (19.6)

Table 2 (Cont'd.)

	Non-LGB-identified (n = 132)	LGB-identified (n = 46)	Total (n = 178)
Social desirability bias, mean (SD)	33.2 (28.7)	31.7 (29.1)	32.8 (28.7)
Sexuality discrimination, n (%)*			
Never	110 (85.9)	32 (71.1)	142 (82.1)
Ever	18 (14.1)	13 (28.9)	31 (17.9)
Gender discrimination, n (%)			
Never	97 (75.8)	35 (77.8)	132 (76.3)
Ever	31 (24.2)	10 (22.2)	41 (23.7)
Racial/ethnic discrimination, n (%)**			
None	50 (38.8)	16 (35.6)	66 (37.9)
1–2 situations	24 (18.6)	20 (44.4)	44 (25.3)
3 or more situations	55 (42.6)	9 (20.0)	64 (36.8)
No discrimination	44 (34.1)	13 (28.9)	57 (32.9)
Sexuality discrimination only	1 (0.8)	2 (4.4)	3 (1.7)
Gender discrimination only	5 (3.9)	1 (2.2)	6 (3.4)
Racial/ethnic discrimination only	49 (38.3)	15 (33.3)	64 (37.0)
Sexuality + gender discrimination	0 (0.0)	0 (0.0)	0 (0.0)
Sexuality + racial/ethnic discrimination	3 (2.3)	5 (11.1)	8 (4.6)
Gender + racial/ethnic discrimination	12 (9.4)	3 (6.7)	15 (8.7)
Sexuality + gender + racial/ethnic discrimination	14 (10.9)	6 (13.3)	20 (11.6)
Psychological distress, mean (SD)	7.8 (5.6)	10.1 (5.4)	8.4 (5.6)

Note: Sum of cases for variable categories may not sum to column totals due to missing data. Chi-square tests were conducted for categorical variables, and ANOVAs were conducted for continuous variables.

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

foreign-born participants were less likely to identify as LGB than U.S.-born participants. In addition, compared with LGB-identified participants, non-LGB-identified participants were more likely to be in transportation industries, to make more than 1.5 times the living wage, and to be married/partnered. LGB-identified sexual minorities were more likely to report discrimination based on sexuality than were non-LGB-identified sexual minorities; non-LGB-identified sexual minorities were more likely to report racial/ethnic discrimination in 3 or more situations. A majority of sexual minority participants reported experiencing at least one of the three specified types of discrimination (67.1%)—that is, based on sexuality, gender, or race/ethnicity; and a large percentage reported experiencing two or more types of discrimination (24.9%), with 11.6 percent reporting all three forms of discrimination.

Additional descriptive analyses examining reports of discrimination by race/ethnicity and gender among sexual minority participants are presented in Table 3. Whites and those of "other" race/ethnicity were more likely to report experiences of sexuality discrimination than other racial/ethnic groups, but the differences reached significance at only the $p < 0.10$ level ($\chi^2 = 6.46$, 3 *df*, $p = 0.091$). Blacks were more likely to report 3 or more situations of racial/ethnic discrimination (51.3%; $\chi^2 = 22.44$, 6 *df*, $p = 0.001$). No significant differences in gender discrimination were found by race. We also did not find statistically significant gender differences in sexuality discrimination, gender discrimination, and racial/ethnic discrimination.

Linear Regressions Predicting Psychological Distress

In bivariate analyses, a report of having ever experienced sexuality discrimination was associated with greater levels of psychological distress ($b = 4.28$, SE = 1.09, $p < 0.001$); gender discrimination was associated with psychological distress at the trend level ($b = 1.83$, SE = 1.02, $p = 0.073$); and racial/ethnic discrimination was associated with higher levels of psychological distress, with participants reporting 1 to 2 situations having levels 2.90 points higher (SE = 1.06, $p < 0.006$) and those reporting 3 or more situations having levels 4.85 points higher (SE = 0.86, $p < 0.001$) than those reporting no racial/ethnic discrimination.

A multivariable model including only sociodemographic variables revealed that LGB-identified participants reported higher levels of psychological distress than non-LGB-identified sexual minorities ($b = 2.49$, SE = 1.11, $p < 0.05$). Multivariable analyses were then conducted to examine the influence of discrimination based on sexuality, gender, and race/ethnicity separately (Table 4, models 1, 2, and 3). Controlling for potentially confounding covariates, sexuality discrimination was associated with significantly higher levels of psychological distress ($b = 4.25$, SE = 1.14, $p < 0.001$), and the effect of LGB identification was attenuated ($b = 1.99$, SE = 1.08) and was no longer statistically significant. Reporting racial/ethnic discrimination in 3 or more situations was associated with significantly higher levels of psychological distress ($b = 5.22$, SE = 0.94, $p < 0.001$). Gender discrimination was associated with higher levels of psychological distress at the $p < 0.10$ level ($b = 2.06$, SE = 1.07, $p = 0.053$).

When including all three forms of discrimination together in the model (Table 4, model 4), sexuality discrimination and racial/ethnic discrimination continued to be associated with higher levels of psychological distress ($b = 2.97$, SE = 1.21, $p = 0.015$ for sexuality discrimination; $b = 4.63$, SE = 0.98, $p < 0.001$ for 3 or more situations of racial/ethnic discrimination). Gender discrimination was not significantly associated with psychological distress ($b = –0.49$, SE = 1.10, $p = 0.656$). In all models, higher levels of social desirability bias were associated with lower levels of psychological distress.

Table 3

Self-reported experiences of discrimination among sexual minority participants by race/ethnicity and by gender in the United for Health Study, Greater Boston Area, Massachusetts, 2003–2004, n (%)

	Race				Gender	
	White (n = 38)	Black (n = 78)	Latino (n = 33)	Other (n = 22)	Men (n = 130)	Women (n = 42)
Sexuality discrimination						
Never	28 (73.7)	67 (88.2)	28 (87.5)	14 (70.0)	110 (85.9)	29 (70.7)
Ever	10 (26.3)	9 (11.8)	4 (12.5)	6 (30.0)	18 (14.1)	12 (29.3)
Gender discrimination						
Never	29 (76.3)	54 (71.1)	28 (87.5)	15 (75.0)	99 (77.3)	32 (78.0)
Ever	9 (23.7)	22 (28.9)	4 (12.5)	5 (25.0)	29 (22.7)	9 (22.0)
Racial/ethnic discrimination						
None	15 (39.5)	29 (38.2)	12 (37.5)	8 (40.0)	51 (39.5)	15 (36.6)
1–2 situations	16 (42.1)	8 (10.5)	12 (37.5)	4 (20.0)	29 (22.5)	14 (34.1)
3 or more situations	7 (18.4)	39 (51.3)	8 (25.0)	8 (40.0)	49 (38.0)	12 (29.3)
No discrimination	12 (31.6)	25 (32.9)	10 (31.3)	8 (40.0)	45 (35.2)	12 (29.3)
Sexuality discrimination only	2 (5.3)	1 (1.3)	0 (0.0)	0 (0.0)	2 (1.6)	1 (2.4)
Gender discrimination only	1 (2.6)	3 (3.9)	2 (6.3)	0 (0.0)	4 (3.1)	2 (4.9)
Racial/ethnic discrimination only	12 (31.6)	28 (36.8)	16 (50.0)	5 (25.0)	48 (37.5)	15 (36.6)
Sexuality + gender discrimination	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Sexuality + racial/ethnic discrimination	3 (7.9)	0 (0.0)	2 (6.3)	2 (10.0)	4 (3.1)	4 (9.8)
Gender + racial/ethnic discrimination	3 (7.9)	11 (14.5)	0 (0.0)	1 (5.0)	13 (10.2)	0 (0.0)
Sexuality + gender + racial/ethnic discrimination	5 (13.2)	8 (10.5)	2 (6.3)	4 (20.0)	12 (9.4)	7 (17.1)

Note: Sum of cases for variable categories may not sum to column totals due to missing data.

Table 4

Linear regressions predicting psychological distress among sexual minorities in the United for Health Study (n = 172), Greater Boston Area, Massachusetts, 2003–2004

	Model 1 *b* (SE)	Model 2 *b* (SE)	Model 3 *b* (SE)	Model 4 *b* (SE)
Intercept	13.17 (3.08)***	13.79 (3.17)***	10.26 (3.06)***	9.99 (3.03)**
Sexuality discrimination: ever vs. never	4.25 (1.14)***	—	—	2.97 (1.21)*
Gender discrimination: ever vs. never	—	2.06 (1.07)	—	–0.49 (1.10)
Racial/ethnic discrimination: ever vs. never				
1–2 situations vs. none	—	—	1.98 (1.06)	1.66 (1.06)
3 or more situations vs. none	—	—	5.22 (0.94)***	4.63 (0.98)***
Gender: women vs. men	–1.21 (1.08)	–0.86 (1.11)	–0.93 (1.05)	–1.13 (1.04)
Sexuality: LGB vs. non-LGB	1.99 (1.08)	2.41 (1.11)*	2.58 (1.04)*	2.26 (1.03)*
Race				
Black vs. white	–1.15 (1.37)	–1.62 (1.41)	–2.22 (1.32)	–1.84 (1.31)
Latino vs. white	–0.15 (1.47)	–0.63 (1.52)	–0.71 (1.40)	–0.31 (1.39)
Other vs. white	–0.04 (1.59)	–0.03 (1.67)	–0.25 (1.54)	–0.25 (1.51)

Age	–0.07 (0.05)	–0.09 (0.05)	–0.04 (0.05)	–0.04 (0.05)
Nativity: U.S.-born vs. foreign-born	–0.44 (1.10)	–0.22 (1.15)	–0.82 (1.06)	–0.77 (1.05)
Relationship status				
Single vs. married/partner	–0.87 (1.19)	–0.80 (1.24)	0.14 (1.16)	–0.06 (1.14)
Widowed, separated, divorced vs. married/partner	–0.73 (1.17)	–0.64 (1.24)	–0.47 (1.10)	–0.71 (1.10)
Poverty level				
100%–199% vs. ≥200% poverty	–0.84 (1.26)	–1.21 (1.29)	–1.09 (1.19)	–0.80 (1.18)
<100% vs. ≥200% poverty	1.52 (1.04)	1.39 (1.08)	1.13 (1.00)	1.34 (0.99)
Worksite				
Retail vs. transportation	–0.75 (1.30)	–0.68 (1.35)	–0.71 (1.25)	–0.67 (1.23)
Manufacturing vs. transportation	–0.30 (1.37)	0.13 (1.42)	0.17 (1.31)	–0.04 (1.30)
Social desirability bias	–0.04 (0.01)**	–0.04 (0.02)*	–0.04 (0.01)*	–0.04 (0.01)**
R^2	0.20	0.15	0.28	0.30

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

DISCUSSION

Our study has several implications for collecting data on sexuality among U.S. working-class populations, and also provides evidence for the deleterious relationship between discrimination and psychological distress among sexual minorities. The study has several strengths, including: (*a*) the use of a sample of sexual minorities recruited without explicit sexual orientation criteria; (*b*) the use of measures assessing both self-identification and behavioral dimensions of sexuality; and (*c*) the investigation of these relationships in a considerably understudied population—namely, employed, working-class sexual minorities. This study demonstrates that U.S. studies on sexuality not specifically targeting LGB participants are not only feasible but also important, given the implications of sexuality for discrimination and psychological distress. A novelty of our study is the explicit examination of unionized workers who potentially face discrimination at work as well as in other domains, and for whom issues of psychological distress may be a greater concern compared with more affluent groups.

We found considerable heterogeneity in responses to measures of sexual orientation and sexual behavior, suggesting that measures of these dimensions of sexuality do not necessarily correspond. Among sexual minority participants, we found significant differences in whether an individual identified as LGB, based on various demographic factors. In particular, we found differences in identification as LGB by race/ethnicity and nativity, which may reflect a lack of cultural relevance of traditional categories of sexual orientation that represent identities historically developed and adopted in gay white communities in the United States (26, 27 47–50). For example, there are no culturally equivalent words for "gay" as a social identity in Spanish or in many Asian languages (48, 51, 52). Our findings are compatible with previous studies showing that black and Latino MSM are less likely than white MSM to identify as gay (26, 27). These findings suggest that traditional categories of sexual orientation may be less relevant to racial/ethnic minorities in the United States, many of whom have sexual identities that are informed by different cultures and contexts. In addition to cultural factors, our results also suggest that socioeconomic and occupational variables should be taken into account in measuring sexuality. Accordingly, purposive sampling of LGB-identified participants may lead to systematic under-representation of non-LGB-identified sexual minorities, particularly for racial/ethnic and sexual minorities, and results may not be generalizable to these populations.

The findings of this study also suggest that aggregating participants who identify as LGB with those who report engaging in same-sex behaviors may obscure differences between non-LGB-identified and LGB-identified sexual minorities in the United States. Indeed, we found that LGB-identified participants had significantly higher levels of psychological distress than non-LGB-identified

participants. These results suggest that grouping LGB- and non-LGB-identified sexual minorities under rubrics of MSM or "women who have sex with women" (WSW) may attenuate estimates of psychiatric morbidity in working-class LGB communities. Accordingly, participants who identify as LGB may be at greater risk for psychological distress because of higher levels and greater salience of homophobia. Along these lines, our results show that when adding sexuality discrimination in the multivariable model, the effect of LGB identification is lessened and no longer significant (see Table 4, model 1).

Our results indicate that experiencing discrimination based on sexuality, gender, and race/ethnicity is associated with higher levels of psychological distress among working-class sexual minorities in the United States. We found that experiencing gender discrimination may lead to higher levels of psychological distress, although taking into account other forms of discrimination may explain this association. Even when examining all forms of discrimination simultaneously, reports of sexuality discrimination and racial/ethnic discrimination were still significantly associated with greater psychological distress, suggesting that sexuality discrimination and racial/ethnic discrimination may have an additive detrimental effect on mental health among working-class sexual minorities. These results have strong implications for racial/ethnic and sexual minorities, who may be at greater risk for experiencing both racial/ethnic and sexuality discrimination. Our findings are consistent with both qualitative and quantitative studies suggesting that experiences of multiple forms of oppression may be associated with poor mental health outcomes among racial/ethnic and sexual minorities, who are likely to face racial/ethnic discrimination both within mainstream white contexts and within LGB communities in the United States, as well as facing homophobia in broader hetero-normative environments and in racial/ethnic minority communities (6–8, 18–22).

There are several caveats to our findings. The relatively small sample size of sexual minority participants in our study precluded conducting stratified analyses by sexuality (non-LGB-identified vs. LGB-identified participants), gender, and race/ethnicity, as well as interactions between different forms of discrimination. For example, it is plausible that there are multiplicative effects of experiencing multiple forms of discrimination. In addition, associations between types of discrimination might vary by sexuality, race/ethnicity, and gender. The deleterious influence of gender discrimination might only be apparent among women. Similarly, given the strong racial/ethnic differences among participants classified as LGB-identified versus non-LGB-identified sexual minorities, simply controlling for race/ethnicity may have obscured subgroup differences in the influence of sexuality discrimination. Along similar lines, our analyses may have lacked sufficient power to detect significant yet meaningful differences in psychological distress, such as for gender discrimination or poverty level, which did show relatively strong effects. Therefore, some of our results should be regarded as preliminary.

Further, the cross-sectional nature of our data limits inferences regarding the direction of causality. For example, it is possible that greater levels of psychological distress caused participants to perceive and/or report more discrimination than if they had not been psychologically distressed, as previous researchers have noted (e.g., 53, 54). Along similar lines, participants who are more likely to report psychological distress may also be more likely to report discrimination, making our findings an artifact of willingness to disclose. We did, however, control for levels of social desirability bias to address personality as a potential confounder. Related to the issue of measurement, experiences of sexuality discrimination and gender discrimination were assessed with single-item measures, and therefore may have been unreliable. Including items measuring sexuality and gender discrimination in different domains (e.g., in employment, in housing, in public settings) may have solicited additional reports of discrimination. Furthermore, variations in the degree or extent of sexuality or gender discrimination could not be assessed. For example, the influence of gender discrimination might have been more evident among participants who experienced gender discrimination in more domains, as we had found with racial/ethnic discrimination. Along these lines, by grouping together those who experience both lower and higher levels of discrimination, the use of single-item and dichotomous measures of sexuality and gender discrimination may have attenuated our effect estimates.

Although our findings are most generalizable to working-class sexual minorities in the Greater Boston Area and may not be applicable to other sexual minority populations (including those in other industries, geographic areas, and countries), our results are consistent with previous literature documenting the inadequacy of traditional categories of sexual orientation in assessing sexuality, particularly among racial/ethnic minority groups in the United States, as well as the deleterious effects of discrimination on mental health outcomes among sexual minorities. Despite the limitations of our study, the findings imply that experiences of discrimination among U.S. working-class sexual minorities may contribute to high levels of psychiatric morbidity.

As our results indicate, mental health issues are a significant public health concern among working-class sexual minorities in the United States, and steps should be taken in the prevention and treatment of psychological distress in these populations. Access to adequate medical care for psychological distress should be made available to working-class employees. Although unionized workers are more likely to be insured than those who are non-unionized, given the types of industries targeted and the lower income levels in our sample, our participants were likely to have low levels of insurance coverage (55, 56). Union leaders should advocate for adequate medical care in the treatment of mental health problems. Our study also suggests that, at a minimum, antidiscrimination laws should be expanded to help prevent mental health problems among working-class sexual minorities. Although these workers are legally protected in Massachusetts,

a majority of U.S. states do not have laws protecting against sexual orientation discrimination in the hiring or firing of employees (57). In addition to legislative efforts, steps should be taken to address interpersonal forms of discrimination based on sexuality, gender, and race. Employers may provide avenues for recourse for victims of discrimination, such as impartial mediation and offices where employees can report instances of discrimination. Employers can also provide sensitivity training for workers, managers, and executives, and require all personnel to attend workshops on antidiscrimination policies. Groups such as Pride at Work, the LGB and transgender constituency group of the American Federation of Labor–Congress of Industrial Organizations (58), can also be developed and expanded to address and support the labor needs of sexual minorities. Such workplace-focused initiatives to counter discrimination based on sexuality, gender, and race/ethnicity could provide a useful complement to address broader forms of prejudice in social discourse and mainstream culture.

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