

Differences in Substance Use Disparities Across Age Groups in a National Cross-Sectional Survey of Lesbian, Gay, and Bisexual Adults

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Abstract

Purpose: Lesbian, gay, and bisexual (LGB) adults have elevated rates of substance use (SU) relative to heterosexual adults, yet the extent to which these disparities vary across age groups is unknown. Using national survey data, we test for age group differences in lifetime and recent SU disparities among LGB adults.

Methods: Using data on 67,354 adults (including 4868 LGB adults) from the 2015 and 2016 National Survey on Drug Use and Health (NSDUH), we examined LGB disparities in lifetime and recent use of cigarettes, marijuana, and illicit drugs. Analyses were stratified by age groups (18–25, 26–34, and 35–49 years) and compared lesbian/gay (L/G) and bisexual adults, respectively, with heterosexual adults of the same gender and age group.

Results: Among L/G women, disparities (relative to same-age heterosexual women) were significantly larger in the youngest age group compared with the older age groups for numerous measures of lifetime and recent SU. Conversely, among bisexual men and bisexual women, multiple SU disparities (relative to heterosexual adults of the same age and gender) were significantly smaller among the youngest age group compared with the oldest age group.

Conclusion: Contrary to hypotheses of decreased minority stress among more recent generations of LGB individuals, we found that SU disparities were not systematically smaller in younger age groups. Rather, disparities exhibited distinct trends across age groups. As NSDUH data are cross-sectional, differences by age group may reflect the influence of both age-varying developmental factors as well as time-varying social and contextual factors.

Keywords: disparities, lesbian, gay, and bisexual, LGB, sexual minorities, substance use

Introduction

MANY SUBSTANCE USE (SU) behaviors are elevated among lesbian, gay, and bisexual (LGB) individuals relative to heterosexual peers. LGB substance use disparities emerge in adolescence—LGB youth have nearly 4 times the odds of lifetime smoking and 2.5 times the odds of lifetime marijuana use compared with their heterosexual peers.¹ Previous studies have also documented higher lifetime rates of illicit drug use among LGB youth.^{2–7} National surveys have found that LGB adults, especially women, are more likely to smoke, and to be heavy smokers, than heterosexual peers of the same gender.^{8–10} Disparities in lifetime marijuana use and illicit drug use have also been observed among LGB adults.^{10–12} These SU disparities are often at-

tributed to minority stress, namely the stigma, prejudice, and discrimination uniquely experienced by those in a marginalized social group.^{6,13,14} Minority stress may be manifested at an interpersonal level or a structural level (e.g., institutional policies and laws).^{15,16} This chronic social stress, not faced by their majority group counterparts, is believed to elevate risk for numerous behavioral health outcomes, including SU.^{4,6,13,17,18}

Heterogeneity in SU risk among LGB individuals is increasingly being recognized, particularly with regard to gender and sexual identity. Bisexual individuals, particularly bisexual women, seem to be uniquely at risk for numerous SU behaviors.^{9,12,19} The 2015 Global Drug Survey, an anonymous online survey of nearly 60,000 individuals, found that, relative to heterosexuals of the same gender, bisexual

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men and women reported higher rates of lifetime use for marijuana, cocaine, inhalants, and hallucinogens.¹² A study using data from the 2012–2013 National Adult Tobacco Survey found smoking rates to be uniquely elevated among bisexual women.²⁰ A recent study using 2015–2016 National Survey on Drug Use and Health (NSDUH) data found that, relative to heterosexual adults of the same gender, bisexual women exhibited more disparities in current SU behaviors than did bisexual men.¹⁹

Although it is plausible that SU disparities may differ in nature or magnitude across age groups of LGB individuals, few studies have examined this potential heterogeneity to date. Because of changing societal attitudes toward LGB individuals, older generations of LGB adults likely experienced more overt exclusion, prejudice, and discrimination.^{21–23} Minority stress may also accumulate across the life span, as older individuals have had more years to experience minority stress. Both these factors may contribute to elevated SU disparities among older LGB individuals or generations. Other generational and developmental factors might also result in age-differing disparities. Frequency and timing of lifecourse events associated with SU behaviors (e.g., relationship formation, parenting, education, and employment) may also vary across LGB age groups relative to heterosexual individuals.^{24,25} Furthermore, shifting social norms and regulations around SU may have amplified or reduced differences between LGB and heterosexual individuals at certain time points, causing variations in disparities across age groups.

To address these gaps in the literature, we examined variation in SU disparities among LGB adults across age groups in a national sample of U.S. adults. Using data from the 2015 and 2016 NSDUH, we estimated disparities in SU behaviors among individuals who identify as lesbian/gay (L/G) or bisexual, relative to heterosexual individuals of the same gender. We stratified analyses with respect to age group and tested for differences in disparity magnitude across age. We considered rates of lifetime use, a cumulative measure of use across the lifecourse, and measures of recent use. This article extends our recent work characterizing heterogeneity of LGB disparities in past-year SU behaviors and disorders by formally testing age group differences in both lifetime and recent SU use.¹⁹ Characterizing SU variation across age groups will advance our understanding of generational differences among LGB individuals and is a foundational step toward explicating etiological origins of disparities.

Methods

Study population

Data were from the 2015 and 2016 NSDUH, a nationally representative survey of drug use among the civilian, noninstitutionalized U.S. population 12 years and older. The sample size for the public use NSDUH data was 57,146 individuals in 2015 (70% response rate) and 56,897 individuals in 2016 (68% response rate). All survey respondents gave written informed consent and were compensated \$30. Our study sample was restricted to individuals 18–49 years of age who identified as heterosexual, L/G, or bisexual ($N=67,354$ total, including 4868 LGB adults). Individuals 12–17 years of age were excluded as NSDUH does not ask

about sexual identity for those younger than 18 years, as were individuals who did not respond to the sexual identity question or answered “don’t know.” Individuals 50 years or older were excluded as sample sizes of LGB subgroups were too small for accurate estimates.

Measures

NSDUH public use data reports age as a categorical variable; our sample spanned three age categories: 18–25, 26–34, and 35–49 years. Sexual identity was assessed by an item that asked, “Which one of the following do you consider yourself to be?” with response choices of “Heterosexual, that is, straight,” “Lesbian or gay,” “Bisexual,” and “Don’t know.”²⁶

Lifetime daily smoking was assessed with the item “Has there ever been a period in your life when you smoked cigarettes every day for at least 30 days?”²⁶ Lifetime use for other substances (i.e., marijuana, hallucinogens, cocaine, and inhalants) was assessed with an item that asked “Have you ever, even once, used [substance].”²⁶ The NSDUH defines hallucinogens as drugs that “often cause people to see or experience things that are not real” and provides a reference list of popular hallucinogens (e.g., lysergic acid diethylamide, ecstasy, phencyclidine, peyote, mescaline, psilocybin, and ketamine).²⁶ The NSDUH defines inhalants as “liquids, sprays and gases that people sniff or inhale to get high or to make them feel good” and provides a reference list of popular inhalants (e.g., amyl nitrite, “poppers,” nitrous oxide or “whippits,” and lacquer thinner/paint solvents).²⁶

Past-month nicotine dependence was measured by the Fagerström Test for Nicotine Dependence item assessing whether the first cigarette smoked was within 30 minutes of waking up. Past-year marijuana use was defined as at least one episode of marijuana use in the past 12 months. Past-year illicit drug use (other than marijuana) was defined as at least one episode of using hallucinogens, inhalants, methamphetamine, tranquilizers, cocaine, heroin, stimulants, sedatives, or nonmedical use of prescription pain relievers in the past 12 months. Note that although we examined lifetime use of specific illicit drugs, we considered past-year use of any illicit drugs (other than marijuana) because of low past-year prevalences. Similarly, examination of lifetime rates of certain illicit drugs (e.g., heroin) were precluded because of low prevalence rates.

Demographic variables included gender, race/ethnicity (White, Black, Hispanic, Asian, or other), education level (less than high school, high school, some college/2-year college degree, or 4-year college degree), urbanicity (large metro area, small metro area, or nonmetro area), marital status (married, widowed, divorced/separated, or never married), employment status (full-time employment, part-time employment, unemployed, or other), and living with children (yes/no).²⁶

Analysis

We calculated the following descriptive statistics: prevalence of LGB subgroups by age and gender, demographic characteristics across LGB subgroups, and prevalence of SU outcomes by age, gender, and sexual identity. Logistic regression was used to estimate the odds ratio (OR) of a given SU behavior; age, gender, and sexual identity indicators and

their interactions were included in all regression models to allow for estimation of age-, gender-, and sexual identity-specific ORs. We present ORs quantifying disparities for LGB adults compared with heterosexual adults of the same age and same gender. For a given LGB subgroup, differences in OR magnitude across age groups were assessed with survey-adjusted Wald tests. Models for lifetime outcomes adjusted for race/ethnicity, education level, and urbanicity; models for recent outcomes (past month or past year) adjusted additionally for current marital status, employment status, and living with children. All analyses accounted for NSDUH survey design and were conducted in Stata statistical software version 15 (StataCorp LLC, College Station, TX, 2017).

Results

Age, gender, and demographic differences among LGB adults

Our sample included 776 gay men, 675 bisexual men, 743 L/G women, and 2674 bisexual women, as well as 29,798 heterosexual men and 32,688 heterosexual women (Table 1). The proportion of LGB adults was highest in the youngest age group: 2.5% of individuals 18–25 years of age identified as L/G and 7.0% as bisexual. Significant differences were observed across sexual identity groups for all demographic characteristics considered (Table 2). Heterosexual men and women had the highest proportions of individuals in the 35- to 49-year cohort, whereas bisexual men and women had the lowest proportions of those at 35–49 years of age. Compared with heterosexual adults of the same gender, gay men had higher education levels, whereas bisexual men and both L/G and bisexual women had lower education levels. Gay men were more likely to live in a large urban area than other subgroups.

Smoking

Relative to same-age heterosexual men, lifetime rates of daily smoking were significantly elevated among gay men 18–25 years of age (30% vs. 23%, adjusted odds ratio [aOR]=1.7) and 35–49 years of age (44% vs. 38%, aOR=1.5) (Table 3). Bisexual men 26–34 years of age had significantly higher rates of nicotine dependence (22%, aOR=1.9) compared with heterosexual men 26–34 years

of age (13%). Lifetime rates of daily smoking were significantly elevated among both L/G and bisexual women, relative to same-age heterosexual women, for all age groups. Prevalence of past-month nicotine dependence was higher among bisexual women, relative to same-age heterosexual women, for all age groups and among L/G women 18–25 years of age.

Significant differences in smoking disparities across age groups were observed for L/G women. L/G women 18–25 years of age experienced significantly larger disparities in lifetime daily smoking (aOR=3.4) compared with L/G women at age 26–34 years (aOR=1.7) and 35–49 years (aOR=1.6). Similarly, L/G women 18–25 years of age experienced significantly larger disparities in past-month nicotine dependence (aOR=3.7) than older age groups of L/G women (26–34 years, aOR=1.0; 35–49 years, aOR=1.2).

Marijuana use

Relative to same-aged heterosexual men, lifetime marijuana use was significantly higher for gay men 18–25 years of age (65% vs. 54%, aOR=1.6) and 26–34 years of age (73% vs. 60%, aOR=1.8) as well as for bisexual men 35–49 years of age (65% vs. 54%, aOR=1.8) (Table 4). Past-year marijuana use was significantly elevated among gay men 18–25 years of age (46% vs. 36%, aOR=1.5) and bisexual men 35–49 years of age (24% vs. 14%, aOR=1.7), relative to same-age heterosexual men. Compared with same-aged heterosexual women, rates of lifetime marijuana use were significantly elevated among both L/G women (aOR ranged from 1.6 to 3.0) and bisexual women (aOR ranged from 2.7 to 3.5) for all age groups. Past-year marijuana use rates were significantly higher among bisexual women in all age groups and among L/G women 18–25 years (52% vs. 26%, aOR=2.8).

Significant differences in marijuana disparities were observed across age groups for bisexual men, bisexual women, and L/G women. Bisexual men 35–49 years experienced significantly larger disparities in lifetime marijuana use (aOR=1.8) and past-year marijuana use (aOR=1.7) compared with bisexual men 18–25 years (lifetime aOR=0.81, past-year aOR=0.95). Similarly, bisexual women 35–49 years experienced significantly larger disparities in past-year marijuana use (aOR=4.4) than younger age groups of bisexual women (18–25 years, aOR=2.6; 26–34 years, aOR=2.4).

TABLE 1. DISTRIBUTION OF 2015–2016 NATIONAL SURVEY ON DRUG USE AND HEALTH PARTICIPANTS 18–49 YEARS BY AGE, GENDER, AND SEXUAL IDENTITY (N=67,354)

	Men			Women		
	Heterosexual, n = 29,798	Gay, n = 776	Bisexual, n = 675	Heterosexual, n = 32,688	Lesbian/gay, n = 743	Bisexual, n = 2674
18–25 years	12,367 94.2%	368 2.7%	387 3.1%	12,606 86.7%	365 2.3%	1678 11.0%
26–34 years	7703 95.3%	216 2.9%	153 1.8%	8600 91.4%	189 2.0%	635 6.6%
35–49 years	9728 96.9%	192 1.9%	135 1.3%	11,482 95.8%	189 1.4%	361 2.8%

Proportions represent within gender, within age cohort distribution of sexual identity and are weighted to account for National Survey on Drug Use and Health survey design.

TABLE 2. DEMOGRAPHIC CHARACTERISTICS OF 2015–2016 NATIONAL SURVEY ON DRUG USE AND HEALTH PARTICIPANTS 18–49 YEARS BY GENDER AND SEXUAL IDENTITY (N=67,354)

	Men			Women			Chi-square test
	Heterosexual, n=29,798, %	Gay, n=776, %	Bisexual, n=675, %	Heterosexual, n=32,688, %	Lesbian/gay, n=743, %	Bisexual, n=2674, %	
Age							
18–25 years	26.0	30.1	42.9	24.2	33.1	47.3	<0.001
26–34 years	28.7	34.7	27.5	28.4	32.6	31.4	
35–49 years	45.3	35.1	29.6	47.4	34.3	21.3	
Race/ethnicity							
White	58.5	57.6	56.2	57.4	55.0	61.6	<0.001
Black	12.2	12.1	9.8	13.7	20.0	14.9	
Hispanic	20.5	20.4	24.6	19.4	18.3	14.8	
Asian	6.1	5.5	5.2	6.8	3.0	3.5	
Other	2.7	4.4	4.2	2.7	3.7	5.3	
Education							
Less than high school	14.1	7.5	15.2	10.2	9.4	14.1	<0.001
High school	26.9	20.1	28.2	20.3	24.9	27.6	
Some college/2-year college degree	31.5	31.9	33.8	36.3	37.0	39.5	
Four-year college degree	27.5	40.5	22.8	33.3	28.8	18.9	
Urbanicity							
Large metro	56.6	67.7	60.9	57.3	55.7	59.0	<0.001
Small metro	29.4	24.3	27.4	29.3	31.3	28.3	
Nonmetro	14.0	8.0	11.7	13.4	13.1	12.7	
Marital status							
Married	43.7	8.6	22.9	47.6	18.8	23.9	<0.001
Widowed	0.8	1.1	1.7	1.0	1.1	1.4	
Divorced/separated	9.1	4.3	5.4	12.0	9.0	13.1	
Never married	46.4	86.0	69.9	39.4	71.1	61.6	
Living with children							
No	59.4	94.7	79.3	45.1	74.5	59.9	<0.001
Yes	40.6	5.3	20.7	54.9	25.5	40.1	
Employment status							
Employed full time	69.1	62.2	54.6	52.2	58.9	42.1	<0.001
Employed part time	10.8	15.3	18.0	18.7	12.7	21.4	
Unemployed	7.1	7.5	8.3	5.2	7.7	9.6	
Other	13.0	15.0	19.2	23.9	20.6	26.9	

Demographic differences were compared across subgroups using Pearson chi-square tests based on weighted proportions, corrected for survey design.

In contrast, marijuana disparities among L/G women were significantly larger for the youngest age group. Specifically, L/G women 18–25 years experienced significantly larger disparities in lifetime marijuana use (aOR=3.0) compared with L/G women 26–34 years (aOR=1.6); the disparity in past-year marijuana use among L/G women 18–25 years (aOR=2.8) was significantly larger than that of older age groups of L/G women (26–34 years, aOR=1.4; 35–49 years, aOR=1.5).

Illicit drug use (other than marijuana)

Lifetime use of hallucinogens, cocaine, and inhalants were significantly elevated for gay men, relative to same-aged heterosexual men, across all age groups, with the most pro-

nounced disparities observed for inhalants (aORs ranged from 3.5 to 4.9) (Table 5). Past-year illicit drug use was also significantly elevated for gay men across all age groups (aORs ranged from 1.9 to 2.3). Disparities among bisexual men, relative to same-age heterosexual men, were observed at 35–49 years of age for hallucinogens (36% vs. 22%, aOR=2.3), cocaine (35% vs. 21%, aOR=2.3), and inhalants (32% vs. 15%, aOR=3.0). In addition, bisexual men 18–25 years of age reported significantly elevated inhalant use (18% vs. 10%, aOR=1.7) and bisexual men 26–34 years of age reported significantly elevated hallucinogen use (36% vs. 27%, aOR=1.6). Lifetime use of hallucinogens, cocaine, and inhalants was significantly elevated among both L/G and bisexual women, relative to same-age heterosexual women, across all age groups. Significant disparities in past-year illicit

TABLE 3. SMOKING OUTCOMES: ODDS RATIO ESTIMATES OF LESBIAN, GAY, AND BISEXUAL DISPARITIES (RELATIVE TO HETEROSEXUAL ADULTS) BY AGE AND SEXUAL IDENTITY AMONG 2015–2016 NATIONAL SURVEY ON DRUG USE AND HEALTH PARTICIPANTS 18–49 YEARS OF AGE

	<i>Men</i>					<i>Women</i>				
	<i>Heterosexual,</i> n = 29,798		<i>Gay, n = 776</i>		<i>Bisexual,</i> n = 675	<i>Heterosexual,</i> n = 32,688		<i>Lesbian/gay,</i> n = 743		<i>Bisexual,</i> n = 2674
	%	%	OR	%	OR	%	%	OR	%	OR
Lifetime daily smoker										
18–25 years	23.3	30.2	1.67	24.0	0.94	16.3	37.7	3.39^{a,b}	35.1	2.53
26–34 years	38.6	32.9	1.00	47.6	1.54	30.3	42.2	1.68	56.8	2.48
35–49 years	38.3	44.5	1.55	45.9	1.64	32.6	42.7	1.61	55.3	2.30
Past-month nicotine dependence										
18–25 years	9.8	12.9	1.58	12.1	1.12	5.9	19.0	3.65^{a,b}	13.6	2.06
26–34 years	13.4	12.8	1.19	22.4	1.92	9.6	12.0	1.02	21.7	1.68
35–49 years	12.2	16.1	1.52	11.0	1.04	10.1	14.1	1.22	23.5	1.98

OR represents odds of substance use relative to heterosexual adults of the same age and gender. Bold denotes statistically significant at the 0.05 level. Lifetime OR estimates are adjusted for race/ethnicity, education level, and urbanicity; past-month OR estimates adjust additionally for marital status, employment status, and living with children. All prevalence and OR estimates are weighted to account for the National Survey on Drug Use and Health survey design.

Testing magnitude of disparities across age cohorts:

^aSignificant difference between 18–25 years and 35–49 years.

^bSignificant difference between 18–25 years and 26–34 years.

^cSignificant difference between 26–34 years and 35–49 years (not applicable).

drug use were observed among bisexual women across all age groups and among L/G women at 18–25 years of age.

Significant differences in illicit drug use disparities across age groups were observed for bisexual men, bisexual women, and L/G women. Bisexual men 35–49 years of age experienced significantly larger disparities in lifetime hallucinogen use (aOR = 2.3) and lifetime cocaine use (aOR = 2.3) compared with bisexual men 18–25 years of age (hallucinogen aOR = 1.3, cocaine aOR = 0.95). Similarly, bisexual

women 35–49 years of age experienced significantly larger disparities in lifetime hallucinogen use (aOR = 4.3) than younger age groups of bisexual women (18–25 years, aOR = 2.4; age, 26–34 years, aOR = 3.0). Bisexual women 35–49 years of age also experienced significantly larger disparities in lifetime cocaine use (aOR = 3.2) compared with bisexual women 18–25 years (aOR = 2.0). In contrast, L/G women 18–25 years of age experienced significantly larger disparities in lifetime hallucinogen use (aOR = 3.2) and

TABLE 4. MARIJUANA OUTCOMES: ODDS RATIO ESTIMATES OF LESBIAN, GAY, AND BISEXUAL DISPARITIES (RELATIVE TO HETEROSEXUAL ADULTS) BY AGE AND SEXUAL IDENTITY AMONG 2015–2016 NATIONAL SURVEY ON DRUG USE AND HEALTH PARTICIPANTS 18–49 YEARS OF AGE

	<i>Men</i>					<i>Women</i>				
	<i>Heterosexual,</i> n = 29,798		<i>Gay, n = 776</i>		<i>Bisexual,</i> n = 675	<i>Heterosexual,</i> n = 32,688		<i>Lesbian/gay,</i> n = 743		<i>Bisexual,</i> n = 2674
	%	%	OR	%	OR	%	%	OR	%	OR
Lifetime marijuana use										
18–25 years	54.5	65.0	1.59	51.2	0.81 ^a	46.8	72.0	3.00^b	70.9	2.74
26–34 years	60.5	73.3	1.84	66.5	1.32	49.7	63.0	1.64	76.6	3.06
35–49 years	53.8	63.3	1.36	64.9	1.82	45.5	63.7	2.05	75.4	3.50
Past-year marijuana use										
18–25 years	36.1	46.3	1.45	37.2	0.95 ^a	26.4	51.6	2.78^{a,b}	49.3	2.58^a
26–34 years	26.3	37.1	1.18	38.4	1.46	15.9	26.8	1.38	35.9	2.45^c
35–49 years	14.0	27.1	1.26	23.6	1.74	8.7	17.7	1.55	33.4	4.40

OR represents odds of substance use relative to heterosexual adults of the same age and gender. Bold denotes statistically significant at the 0.05 level. Lifetime OR estimates are adjusted for race/ethnicity, education level, and urbanicity; past-year OR estimates adjust additionally for marital status, employment status, and living with children. All prevalence and OR estimates are weighted to account for the National Survey on Drug Use and Health survey design.

Testing magnitude of disparities across age cohorts:

^aSignificant difference between 18–25 years and 35–49 years.

^bSignificant difference between 18–25 years and 26–34 years.

^cSignificant difference between 26–34 years and 35–49 years.

TABLE 5. ILLICIT DRUG OUTCOMES: ODDS RATIO ESTIMATES OF LESBIAN, GAY, AND BISEXUAL DISPARITIES (RELATIVE TO HETEROSEXUAL ADULTS) BY AGE AND SEXUAL IDENTITY AMONG 2015–2016 NATIONAL SURVEY ON DRUG USE AND HEALTH PARTICIPANTS 18–49 YEARS OF AGE

	Men					Women				
	Heterosexual, n = 29,798		Gay, n = 776		Bisexual, n = 675	Heterosexual, n = 32,688		Lesbian/gay, n = 743		Bisexual, n = 2674
	%	%	OR	%	OR	%	%	OR	%	OR
Lifetime hallucinogen use										
18–25 years	20.8	29.6	1.62	26.4	1.26 ^a	12.6	29.4	3.21^a	26.5	2.40^a
26–34 years	27.0	39.6	1.85	36.3	1.56	16.9	30.7	2.27	38.9	2.97^c
35–49 years	21.6	36.9	1.95	36.3	2.35	14.7	21.9	1.56	43.5	4.33
Lifetime cocaine use										
18–25 years	13.2	21.6	1.87	13.9	0.95 ^a	8.5	20.4	3.02^a	16.1	2.01^a
26–34 years	21.5	30.7	1.80	24.2	1.18	13.5	22.0	1.83	19.0	2.52
35–49 years	20.7	33.2	1.91	35.3	2.28	12.7	19.2	1.64	25.1	3.24
Lifetime inhalant use										
18–25 years	10.5	31.0	3.98	18.0	1.74	7.2	15.2	2.60	16.1	2.44
26–34 years	14.6	35.7	3.47	20.6	1.52	8.1	17.5	2.50	19.0	2.55
35–49 years	15.3	48.2	4.90	32.3	3.01	8.6	16.7	2.04	25.1	3.40
Past-year illicit drug use										
18–25 years	21.1	37.3	2.16	27.7	1.28	16.2	29.3	2.17	30.9	2.19
26–34 years	16.7	32.0	1.89	23.0	1.30	10.9	16.6	1.29	29.1	2.85
35–49 years	8.5	25.1	2.30	14.1	1.65	6.7	11.8	1.39	20.5	2.91

OR represents odds of substance use relative to heterosexual adults of the same age and gender. Bold denotes statistically significant at the 0.05 level. Lifetime OR estimates are adjusted for race/ethnicity, education level, and urbanicity; past-year OR estimates adjust additionally for marital status, employment status, and living with children. All prevalence and OR estimates are weighted to account for the National Survey on Drug Use and Health survey design.

Testing magnitude of disparities across age cohorts:

^aSignificant difference between 18–25 years and 35–49 years.

^bSignificant difference between 18–25 years and 26–34 years (not applicable).

^cSignificant difference between 26–34 years and 35–49 years.

lifetime cocaine use (aOR = 3.0) compared with L/G women 35–49 years of age (hallucinogen aOR = 1.6, cocaine aOR = 1.6).

Discussion

This study provides novel evidence that the magnitudes of SU disparities among subgroups of LGB adults defined by gender and sexual identity vary across age groups (18–25, 26–34, and 35–49 years) in a national sample. We examined LGB disparities with respect to both lifetime and recent use of cigarettes, marijuana, and illicit drugs to characterize disparity trends across age groups. Given the cross-sectional nature of NSDUH data, individuals in different age groups differ both with respect to generation and life stage. Thus, observed differences may reflect the influence of both age-varying developmental factors and time-varying social and contextual factors, as we discuss in the following sections.

Although the cross-sectional nature of the data preclude characterizing the trajectories of SU disparities across the lifecourse, jointly examining lifetime and recent use disparities can provide insight regarding the timing of the disparity. For some LGB subgroups and substances, we found disparities with respect to lifetime, but not recent, use. This pattern of disparities most likely reflects elevated use in younger adulthood that was not sustained across age. In contrast,

the presence of both lifetime and recent use disparities may reflect: (1) a disparity that emerged at younger ages and has persisted or (2) a disparity that emerged recently. Specifically, for older cohorts of L/G women, the presence of lifetime, but not recent use, disparities for all substances suggests that SU among these cohorts of L/G women was limited to young adulthood. In contrast, bisexual women in all age groups had significantly elevated lifetime and recent use of all substances. Likewise, gay men in all age groups exhibited disparities in both lifetime and recent use of illicit drugs, and older bisexual men had elevated lifetime and recent marijuana use. Factors associated with sustained use of illicit drugs into middle adulthood among gay and bisexual men may include attendance at LGBT clubs or circuit parties, as well as sexualized drug use.^{27,28}

Our results also indicate that disparities in lifetime use of most substances (i.e., smoking, marijuana, hallucinogens, and cocaine) were significantly larger among L/G women in the youngest age group (relative to same-age heterosexual women) compared with the middle or oldest age group. One potential explanatory factor is differential timing of SU initiation between L/G and heterosexual women. If heterosexual women have similar lifetime rates of use, but tend to initiate at later ages, lifetime disparities between L/G and heterosexual women would be largest at younger ages and smaller at older ages. A limited number of studies have examined potential differences between LGB and heterosexual

youth with respect to timing of SU initiation, finding that LGB youth, particularly LGB girls, are more likely to initiate smoking and alcohol at earlier ages than their heterosexual peers.^{11,29,30} Another contributing factor to differences across age groups may be secular trends in attitudes toward and legal status of certain substances (e.g., marijuana and smoking).^{31,32} Among adolescents, rates of daily smoking, alcohol use, and binge drinking have declined significantly in the past several decades, whereas the prevalence of marijuana use has risen slightly during the last decade.^{31,33} In addition, the average age at first use of alcohol and cigarettes has risen, whereas average marijuana-onset age has remained relatively stable, resulting in marijuana increasingly being the first substance used by adolescents.³¹ If these secular trends affected LGB individuals differentially, they may serve to amplify or minimize certain LGB disparities across age groups.

In addition, the magnitude of certain disparities in lifetime and recent use (i.e., marijuana, hallucinogens, and cocaine) was significantly larger among bisexual adults in the oldest age group (born in 1966–1981) compared with the youngest age group (born in 1990–1998). These differences may be attributable to elevated discrimination and minority stress experienced by the oldest age group who were adolescents and young adults at the height of AIDS and the burgeoning LGBT rights movement.^{21,34} Minority stress among older bisexual individuals may have been especially amplified by coming of age in a period in which bisexual identities were largely invisible, even within the gay and lesbian community.³⁴ Indeed, previous work has found that older bisexual adults experienced greater stigma, lower social support, and less sense of community compared with older gay and lesbian adults,³⁴ all of which may contribute to the observed disparities.^{22,35}

Furthermore, greater disparities among older age groups of bisexual adults, relative to younger age groups, may be because of the accumulation of risk factors across the lifecourse. Broadly, marriage and parenthood are associated with declines in SU in the general population but are less common among LGB adults.^{35–38} A recent study found that although older bisexual adults were similar to older gay and lesbian adults with respect to education level, they reported lower income levels.³⁴ Studies suggest that these relative disadvantages, including lower SES, begin to emerge in early and middle adulthood.^{39,40} In addition, rates of mental health problems, suicidality, interpersonal violence, and sexual assault have also been shown to be significantly elevated among bisexual women relative to other sexual identity groups.^{41–43} These lifecourse differences may contribute to the observed greater disparities in lifetime and recent SU among older bisexual men and women.

Limitations

These results should be considered in light of several limitations. Measures of sexual identity and SU behaviors are self-reported and may be subject to measurement error because of social desirability bias or recall bias. Although we adjusted for multiple demographic covariates, many other important risk and protective factors that may differ between heterosexual and LGB adults were not measured by the NSDUH (e.g., experiences of discrimination and victimization, social support, and sexual assault). As the NSDUH is

a cross-sectional survey, we cannot distinguish differences because of developmental age differences versus generational differences. Similarly, because of the cross-sectional nature of the data, we cannot characterize the trajectories of LGB disparities across the lifecourse. Because of sample size limitations, we could not estimate age-specific disparities for LGB adults 50 years and older.

Conclusion

In contrast to the hypothesis of decreased minority stress among younger LGB generations, our findings indicate that SU disparities among LGB subgroups are not systematically smaller in younger age groups relative to older age groups. Rather, L/G women in the youngest age group exhibited significantly larger disparities in lifetime and recent use compared with older age groups of L/G women. Furthermore, bisexual women experienced pronounced disparities in both lifetime and recent use across all age groups, indicating that lifetime disparities do not strictly reflect previous use in young adulthood. Future longitudinal cohort studies are needed to differentiate the relative contributions of age-varying developmental factors versus time-varying social and contextual factors on SU disparities among LGB adults.

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Disclaimers

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Author Disclosure Statement

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