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Driving under the influence of alcohol and cannabis by sexual identity, race, ethnicity, and gender: A nationwide analysis using the 2016–2019 National Survey on Drug Use and Health

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Abstract

Background: Sexual minority populations experience higher rates of substance use and related problems, but little is known about their specific involvement in driving under the influence (DUI) of alcohol (DUIA) and cannabis (DUIC) incidents.

Methods: Using data from the 2016–2019 National Survey on Drug Use and Health (NSDUH), we used logistic regression models to estimate the interactive effects of sexual identity, race/ethnicity, and gender on past-year DUIA among adults who used alcohol and DUIC among adults who used cannabis, accounting for covariates. Using model estimates and linear combinations, we calculated the predicted probabilities of each outcome and compared sexual identity differences within and across race/ethnicity and gender.

Results: With few exceptions, the predicted probabilities of DUIA and DUIC were significantly higher among sexual minority women than heterosexual women of similar race/ethnicity. The results were more variable among men with the probabilities of DUIA and DUIC being significantly higher for some groups of sexual minority men and some groups having probabilities equal to or lower than similar heterosexual men. Some of the largest sexual minority gaps in DUIA and DUIC were observed among Hispanic and Other lesbian women and Black gay men.

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Conclusions: Sexual minority individuals are more likely to report DUI than their heterosexual counterparts; however, the risk of DUI among sexual minority populations varies by racial/ethnic and gender subgroup. Our findings indicate the importance of applying an intersectional framework when addressing substance use-related disparities and when designing effective DUI prevention interventions for sexual minority populations.

Introduction

Driving under the influence (DUI) of alcohol (DUIA) and cannabis (DUIC) poses a significant public health issue in the United States (US). In 2019, alcohol-impaired driving caused 11,921 fatalities, 378,000 non-fatal injuries, and \$57 billion in economic costs.¹ Roadside testing for cannabis-impaired driving is limited, but a 2013–2014 survey of nighttime and weekend drivers in the US found that 12.6% tested positive for cannabis, while only 8.3% tested positive for alcohol.² These estimates are consistent with self-reported estimates of DUIA and DUIC, as a recent study showed that approximately 8% of drivers with past-year alcohol and cannabis use reported DUIA and 20% reported DUIC from 2016 to 2019.³ Although the impact of cannabis-impaired driving remains under-studied,^{3,4} the recent legalization of recreational cannabis may elevate the occurrence of DUIC due to increased acceptability and accessibility of cannabis.^{5–7}

Although previous studies have examined sexual identity disparities in DUI,^{8,9} However, sexual identity is only one aspect of an individual's identity, and intersecting marginalized identities may contribute to an increased risk for DUI. There is a research gap regarding these disparities across intersections of race, ethnicity, and gender. This research is necessary to identify subgroups that experience the greatest need for DUI prevention interventions and to reduce the costs associated with DUI.

Sexual minority populations experience a disproportionate impact of substance use and related consequences compared with their heterosexual counterparts. Recent nationally representative surveys suggest a higher prevalence of use for most substances among sexual minority adults compared with heterosexual adults.^{10–12} Sexual minority adults are also more than twice as likely to develop a substance use disorder than their heterosexual counterparts.^{10,13} Notably, substance use and disorder rates are particularly elevated among sexual minority women,^{12,14–18} and this may vary among sexual minority women. For example, the prevalence of past-year cannabis use is higher for bisexual women than lesbian women.¹¹ Among men, the prevalence of past-year cannabis use is higher for both gay and bisexual men than heterosexual men. Differences in substance use between sexual minority and heterosexual populations and variations by gender and sexual identity urge the need to examine disparities in substance use-related consequences.

Limited research suggests that rates of DUI are also significantly higher for sexual minority adults than heterosexual adults.⁹ From 2016 to 2018, approximately 12.9% of gay/lesbian adults and 12.2% of bisexual adults reported DUIA in the past year compared with 8.3% of heterosexual adults. Similarly, 7.6% of gay/lesbian adults and 12.4% of bisexual adults reported DUIC in the past year compared with 4.2% of heterosexual adults. DUIA and DUIC were significantly higher among men than women during this period. Further, White

adults were significantly more likely to report DUIA than Black adults and significantly more likely to report DUIA and DUIC than Hispanic adults. These findings suggest that studying disparities in DUIA and DUIC requires an intersectional approach, examining sexual identity, race/ethnicity, and gender.

The concept of intersectionality underscores that individuals hold multiple, interconnected social identities simultaneously, such as sexual orientation, race and ethnicity, and gender, and that these identities are embedded within systems of inequality.^{19,20} Disparities in substance use among sexual minorities can be attributed to structural and social systems of oppression that disproportionately disadvantage these populations.²¹ Sexual minorities endure excess stress due to the stigma and discrimination associated with their marginalized status,^{21–23} including sexual orientation-based discrimination and harassment, expectations of rejection, and self-stigma, which contribute to more substance use and severe consequences.²⁴

Sexual minority stress does not exist in a vacuum, as it intersects with other systems of privilege and oppression to influence disparities in substance use outcomes. For instance, Black women who are also sexual minorities face interacting forms of discrimination – homophobia, racism, and sexism – resulting in a compounded effect on substance use outcomes.²⁵ Recent research reveals that sexual minority women of color report more heavy episodic drinking, binge drinking, and cannabis use than their heterosexual counterparts and White, non-Hispanic heterosexual women.^{26,27} However, these disparities are not consistently found in sexual minority men of color and are yet to be thoroughly examined within the DUI research literature.

This study aims to identify DUI disparities among gay, lesbian, and bisexual adults compared to their heterosexual counterparts within and across racial/ethnic and gender subgroups using data from the 2016–2019 National Survey on Drug Use and Health (NSDUH). We examine the probability of DUIA and DUIC by sexual identity. Based on previous research, the predicted probabilities of DUI are expected to be higher for gay, lesbian, and bisexual adults than heterosexual adults. Sexual identity disparities are expected to be most pronounced among racial and ethnic minorities, given the intersecting forms of stress these populations experience.

Methods

Study sample and data collection

The 2016–2019 NSDUH included data from annual cross-sectional surveys assessing substance use among a nationally representative sample of the U.S. civilian population ages 12 and older. Data were collected using face-to-face household interviews, computer-assisted interviewing, and audio computer-assisted survey instruments to maximize participant privacy. Additional details can be found elsewhere.²⁸ The weighted interview response rates among adults for 2016–2019 ranged from 64.2% to 67.6%.²⁸

Data from 2016 to 2019 were selected because 2016 was the first year the NSDUH included a question about DUIC, and data after 2019 were affected by the COVID-19 pandemic.

Observations were pooled across the four years ($n=225,622$), adding survey year indicators. Sexual identity was not assessed among individuals under the age of 18, therefore these individuals were not included in our study sample ($n = 54,678$). Among the 170,944 eligible adults, those who responded “don’t know” ($n=1,116$; 0.7%), refused to answer ($n=2,137$; 1.3%), or were missing data ($n=101$; $<0.1\%$) on the sexual identity item were excluded. Adults who were excluded for sexual identity data were more likely to be a racial/ethnic minority, be identified, living in a more urban area, and earn less income ($p<.05$). Additionally, they were less likely to have used marijuana in the past year and less likely to report past-year DUIA or DUIC ($p<.05$). The final analytical sample included 167,590 adults. These data, analyzed in 2024, were deemed non-human subjects’ research by Columbia University.

Measures

Sexual identity—Participants aged 18 and older were asked, “Which of the following do you consider yourself to be?” Response categories included heterosexual, that is, straight; lesbian/gay; bisexual; don’t know; and refuse to answer. A 3-level variable was created to describe mutually exclusive sexual identities, including heterosexual, lesbian/gay, or bisexual adults.

DUI and substance use—Participants were asked whether they had used alcohol or cannabis in the past year. Individuals who reported any past-year alcohol use were further asked whether they drove under the influence of alcohol in the past year. People who reported any past-year cannabis use were asked whether they drove under the influence of cannabis in the past year. Dichotomous variables were created to reflect (1) any past-year DUIA, (2) any past-year DUIC, and (3) any past-year DUIA or DUIC.

Other measures—Sociodemographic variables included age (18–25, 26–34, 35–49, –50 years), annual household income ($<\$20,000$, $\$20,000$ – $\$49,999$, $\$50,000$ – $\$74,999$, $\geq \$75,000$), urbanicity (large metro, small metro, nonmetro), marital status (not married, married), and survey year indicators. Survey respondents who indicated their ethnicity was Hispanic were categorized as Hispanic. Non-Hispanic White respondents were categorized as White, and non-Hispanic Black respondents were categorized as Black. Respondents who indicated they were not Hispanic and selected another race (e.g., American Indian/Alaska Native; Asian) or selected multiple races were categorized as Other. The NSDUH computer-assisted interview guide determines gender by asking the interviewer to record the respondent’s gender as either a man or a woman.

Analysis Plan—We first calculated survey-weighted probability estimates for the pooled 2016–2019 NSDUH datasets by sexual identity across sociodemographic characteristics for (1) past-year DUIA among adults who used alcohol in the past year, (2) past-year DUIC among adults who used cannabis in the past year, and (3) past-year DUIA or DUIC and adults who used alcohol or cannabis in the past year. Next, we used survey-weighted logistic regression models to estimate how sexual identity, race and ethnicity, and gender were associated with the odds of reporting (1) past-year DUIA among adults who used alcohol in the past year, (2) past-year DUIC among adults who used cannabis in the past year, and

(3) past-year DUIA or DUIC and adults who used alcohol or cannabis in the past year, adjusting for age, income, urbanicity, marital status, and survey year. We then repeated these analyses, adding interactions (i.e., product terms) between each sexual identity group, racial/ethnic group, and gender group. Using the model estimates and linear combinations, we calculated the predicted probabilities of each outcome and compared sexual identity differences within and across race/ethnicity and gender. We used NSDUH survey weights for all models. Analyses were conducted in STATA/SE 18.0, statistical tests were 2-sided and were considered statistically significant at the p-value of <0.05.

Results

In terms of alcohol use, 72.3% of the sample reported past-year alcohol use, with 12.0% reporting DUIA. For cannabis use, 21.9% of the sample reported past-year cannabis use, with 29.0% reporting DUIC. Finally, 74.3% of the sample reported using alcohol or cannabis in the past year, with 16% reporting DUIA or DUIC. Table 1 presents unadjusted survey-weighted predicted probabilities of DUIA, DUIC, and DUIA or DUIC by sexual identity across sociodemographic characteristics.

Sexual identity disparities in past-year DUI

Using the results of our logistic regression analyses, we calculated predicted probabilities of DUIA (Figure 1) with pairwise comparisons (Table 2). The predicted probabilities of DUIA were significantly higher for White bisexual men and Black gay men compared to similar heterosexual men. For women, all bisexual and lesbian women except Black lesbian women had significantly higher DUIA probabilities than similar heterosexual women. The largest sexual identity gaps in DUIA (i.e., the difference in DUIA probability between the sexual minority group and the heterosexual reference group) were observed among Other lesbian women (0.16), Hispanic lesbian women (0.12), and Black gay men (0.11). Comparisons of sexual identity gaps in DUIA are presented in the “contrasts” column of Table 2. Several significant differences were observed across race/ethnicity and gender subgroups. For example, the sexual identity gap was significantly larger for Hispanic lesbian women compared to White gay men, Other bisexual men, Other gay men, White bisexual women, Black bisexual women, Black lesbian women, and Other bisexual women ($p < .05$).

Next, our logistic regression models were used to calculate the predicted probabilities of DUIC (Figure 2) with pairwise comparisons (Table 2). Predicted probabilities of DUIC were significantly higher for White and Hispanic bisexual men compared to similar heterosexual men, while Other gay men had lower DUIC probability. For women, all bisexual women and Hispanic lesbian women had significantly higher DUIC probabilities than similar heterosexual women. The largest sexual identity gaps in DUIC were for Other gay men (−0.17), Hispanic bisexual men (0.15), and Hispanic lesbian women (0.13). The largest difference in sexual identity gaps in DUIC was observed between Other gay men and Hispanic bisexual men (0.33).

Finally, our logistic regression models were used to calculate the predicted probabilities of DUIA or DUIC (Figure 3) with pairwise comparisons (Table 2). The predicted probabilities of DUIA or DUIC were significantly higher for White bisexual men, Black gay men,

Hispanic bisexual and gay men and Other bisexual men compared to similar heterosexual men. The predicted probabilities of DUIA or DUIC were significantly higher for all bisexual women and lesbian women compared to racial/ethnically similar heterosexual women. The sexual identity gaps were largest for Other lesbian women (0.17), Hispanic lesbian women (0.14), and Black gay men (0.14). The largest difference in sexual identity gaps was observed between Other lesbian women and Other gay men (0.18)

Discussion

Given the high levels of oppression faced by individuals with intersecting marginalized identities, it is critical for substance use research to understand disparities in substance use consequences at the intersections of sexual identity, race/ethnicity, and gender. We analyzed 2016–2019 NSDUH data to investigate sexual identity disparities in past-year DUIA and DUIC within and across race and ethnicity and gender subgroups.

With few exceptions, the predicted probabilities of DUIA and DUIC were significantly higher for sexual minority women than heterosexual women of similar race and ethnicity. Black lesbian women only differed significantly from Black heterosexual women when examining the combined probability of any DUIA or DUIC. White and Other lesbian women did not significantly differ from heterosexual women of the same race and ethnicity on DUIC. For sexual minority men, the results were less consistent when examining DUIA and DUIC independently. When examining DUIA and DUIC in combination, the predicted probabilities among White, Hispanic, and Other bisexual men, and Black and Hispanic gay men were significantly higher than heterosexual men of similar race and ethnicity. We observed significant differences in sexual identity gaps within and across race/ethnicity and gender. For example, the largest gaps in combined DUIA or DUIC analyses were among Hispanic lesbian women, Other lesbian women, and Black gay men, which were significantly higher than those among White gay men and Other gay men. These findings underscore the necessity of adopting an intersectional approach in developing DUI prevention strategies tailored to specific sexual minority groups.

Our findings build on limited research demonstrating a higher prevalence of DUI among sexual minority adults versus heterosexual adults,^{8,9} and provide novel insights into sexual identity disparities across specific racial/ethnic and gender subgroups. A previous study found that gay/lesbian and bisexual adults had 23% greater odds of past-year DUIA than heterosexual adults,⁹ and the odds of past-year DUIC were 28% greater among gay/lesbian adults, and 97% greater among bisexual adults than heterosexual adults. Our results indicate that the probability of DUIA and DUIC was consistently higher for bisexual women and Hispanic lesbian women compared to heterosexual women of similar race and ethnicity. However, for White gay men and Other gay men, the probability of DUIA and DUIC was nearly identical or lower compared to heterosexual men of similar race and ethnicity.

Disparities in DUI among sexual minority groups may reflect differences in sexual minority stress. Sexual minority stress is linked to poorer mental and behavioral health outcomes, including substance use and related risk behaviors, via increased community and interpersonal risk factors.^{29,30} This stress is associated with more permissive substance use

norms, less perceived risk surrounding substance use, limited access to supportive networks, and less adaptive coping strategies.^{31,32} Bisexual adults, particularly bisexual women,^{22,23} are at greater risk of poor substance use outcomes due to social exclusion, isolation, and stress from both the heterosexual and sexual minority communities.^{23,33} Additionally, sexual minority groups often endorse more favorable beliefs, including greater perceived social rewards, surrounding substance use.³⁴ Bars continue to overrepresent the limited spaces where many sexual minority individuals feel safe and go to find community. Similar safety concerns may influence the use of alternative forms of transit among sexual minority individuals when leaving these venues.³⁵ Research is needed to understand the associations between sexual minority stress and DUI and identify mechanisms that link sexual minority stress to DUI behavior.

The magnitude and direction of sexual identity disparities in DUI varied across some racial/ethnic and gender subgroups. This is consistent with the intersectionality framework, which highlights how sexual identity intersects and interacts with other social identities to shape experiences of privilege and power and affect health outcomes. For example, sexual identity disparities in DUIA and DUIC were significantly higher for Hispanic lesbian women compared to White gay men. This is consistent with research indicating that sexual identity disparities in substance use are greater for women than men.^{14,26,36} For example, sexual minority women have a higher risk for binge drinking and cannabis use than heterosexual women, and these disparities are most pronounced among Black and Hispanic women.²⁶ In general population studies, Black, Hispanic, and other racial/ethnic minority individuals consistently demonstrate lower rates of DUI than White individuals, and women consistently demonstrate lower rates of DUI than men. The difference in magnitude of DUI disparities in the present study is likely influenced by the intersecting experiences of sexual minority stigma, sexism and racism. For example, different forms of discrimination due to varied norms around sexuality may limit sexual minority individuals' access to protective aspects of their other social identities, including protective cultural norms and social support.

Implications

This study has important implications for DUI research and prevention interventions. Specifically, our findings highlight the need for a more nuanced understanding of the associations between sexual minority stress and other forms of marginalization on DUI. Importantly, we used social identities as proxies for the structural and social systems of privilege and oppression that intersect and interact to shape health disparities. Most nationally representative datasets do not assess sexual minority stressors, and research is needed to understand the associations between specific forms of sexual minority stress and DUI behavior at difference intersections of race/ethnicity and gender. Multilevel DUI prevention interventions are needed to address the structural and social vulnerabilities affecting sexual minority populations. Our results suggest that prevention interventions are especially required for Hispanic lesbian women and all bisexual women, given the consistent disparities in both DUIA and DUIC observed in these populations.

Relatively little intervention research exists addressing sexual minority disparities in substance use, particularly for sexual minority women and sexual minorities who are

also racial/ethnic minorities.³⁷ Most substance use interventions for sexual minorities have focused on the individual-level and are based on cognitive behavioral therapy, contingency management, and motivation interviewing.³⁷ Community-level substance use interventions are underrepresented in sexual minority research, and we were unable to find any DUI interventions at any level specific to sexual minority populations. However, previous research underscores the importance of collaborative efforts involving key stakeholders within marginalized communities for the success of DUI prevention interventions, such as alternative transportation initiatives.³⁸ For sexual minorities, these stakeholders may include the owners of sexual minority-serving bars, clubs, and restaurants, community leaders, and sexual minorities who may use these interventions. Additionally, studies indicate that White males are disproportionately represented in the utilization of alternative transportation and other DUI interventions, likely due to higher rates of heavy drinking and DUI in this population.³⁸ Consequently, DUI interventions have predominately targeted this population, potentially leading to a gap in interventions for urban minority neighborhoods or establishments serving predominantly non-White or female clientele. Some interventions have been identified that improve knowledge, beliefs, and attitudes surrounding DUI in populations at increased risk. Adaptations of these interventions for sexual minorities may be crucial to improving DUI outcomes in these populations.

Limitations

Some limitations of the NSDUH survey design should be considered when interpreting the results of the present study. Sexual identity was only added to the NSDUH in 2015, and the DUI measures were adjusted in 2016. As such, analyses were limited to 2016–2019. DUI and sexual identity were self-reported and are subject to social desirability and recall bias. However, questions were assessed via ACASI, which has moderately good validity and reliability for most substances.^{39,40} Our DUI measure did not permit examining how frequently someone engaged in DUI behavior or their perceived level of DUI impairment.

The NSDUH does collect data on sexual attraction but not on sexual behavior, and our choice to focus on sexual identity may have implications for our findings.⁴¹ Further, the NSDUH sexual identity measure only includes heterosexual, bisexual, gay/lesbian, don't know, and refused to answer as response options, omitting other sexual identities (e.g., queer, pansexual, asexual). Our analyses excluded adults who answered "don't know" or refused to answer the sexual identity measure because of insufficient power. We observed significant differences between these excluded adults and those who were included, including lower rates of alcohol and cannabis use, potentially biasing our results. We combined adults who did not identify as White, Black, or Hispanic and those who identified as multiracial into a single Other race/ethnicity group. Many of the adults in our Other group have racial backgrounds that are unrepresented in substance use research, such as American Indians and Alaskan Natives, and who have been shown to have higher rates of substance use.⁴² The NSDUH gender assessment only included man and woman and did not indicate if people were transgender or cisgender (or other genders). The NSDUH excludes people who are unhoused or incarcerated, of which sexual minorities and racial and ethnic minorities are over-represented. Future research should focus on examining sexual identity disparities in DUI among these critical populations.

Conclusions

Our study underscores the significant disparities in DUIA and DUIC among sexual minority populations, particularly among bisexual women and Hispanic gay women. These findings emphasize the urgent need for intersectional approaches in both research and intervention strategies. Given the complex interplay of sexual identity, race, ethnicity, and gender, it is crucial to develop targeted DUI prevention programs that address the unique stressors faced by these communities. Future research should prioritize the inclusion of comprehensive sexual minority stress measures and explore the specific mechanisms linking these stressors to DUI behaviors. Additionally, there is a critical need for community-level interventions and collaborative efforts involving stakeholders within marginalized communities to effectively address and reduce DUI risks. By focusing on these areas, we can move towards more equitable health outcomes and reduce the burden of substance use and related consequences in sexual minority populations.

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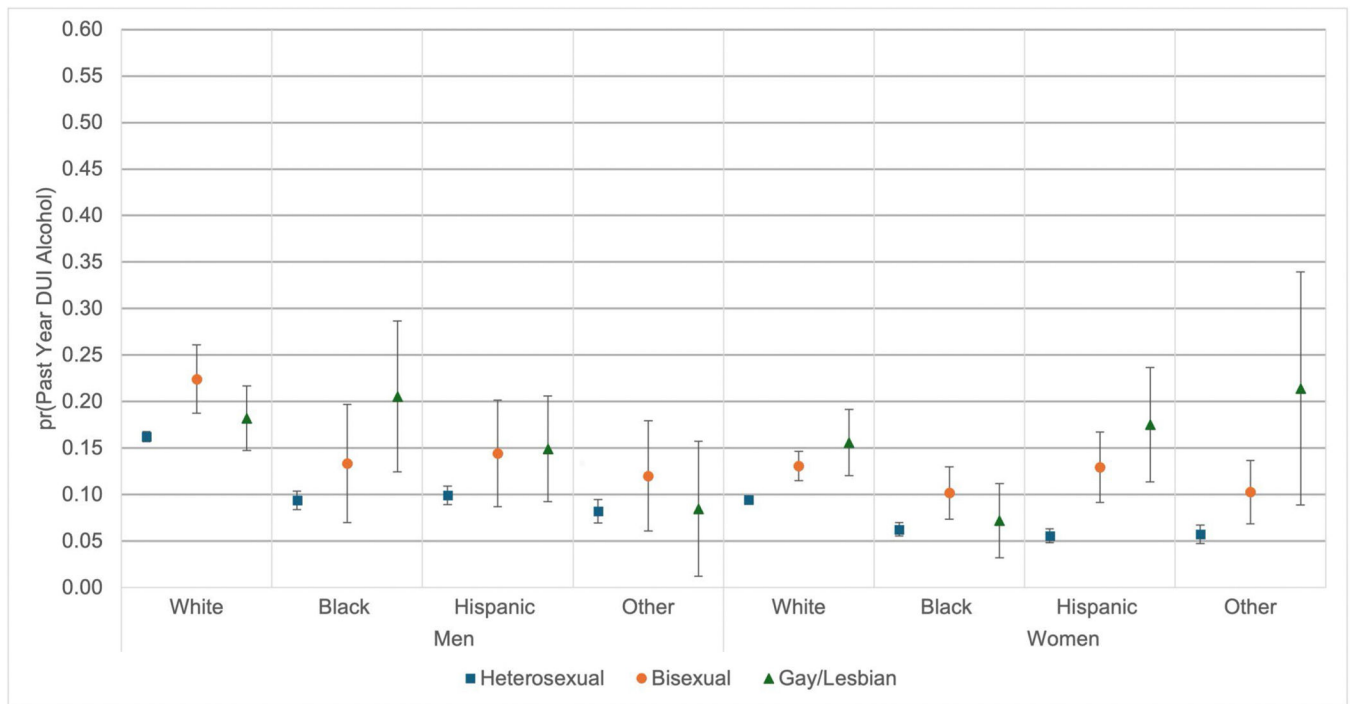


Figure 1.

Adjusted weighted probability of past-year driving under the influence of alcohol by sexual identity, race/ethnicity, and gender among US adults who used alcohol in the past year (2016–2019).

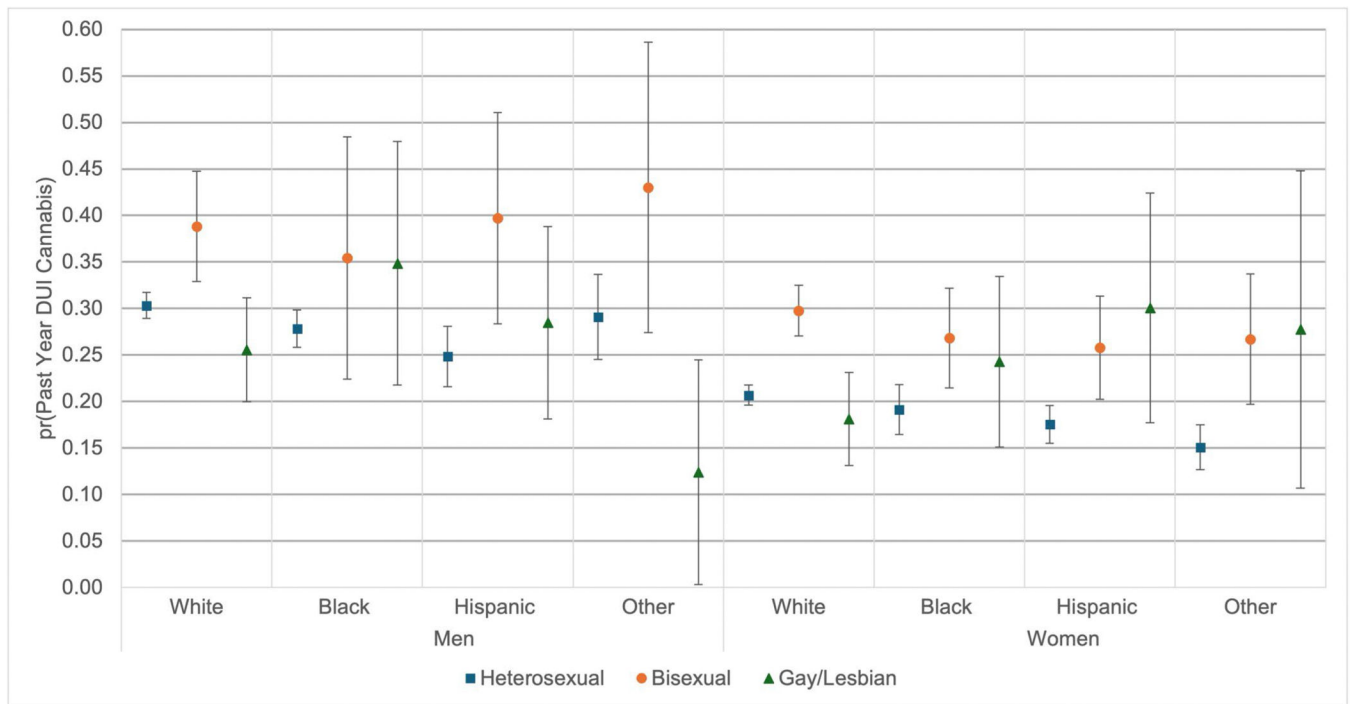


Figure 2. Adjusted probability of past-year driving under the influence of cannabis by sexual identity, race/ethnicity, and gender among US adults who used cannabis in the past year (2016–2019).

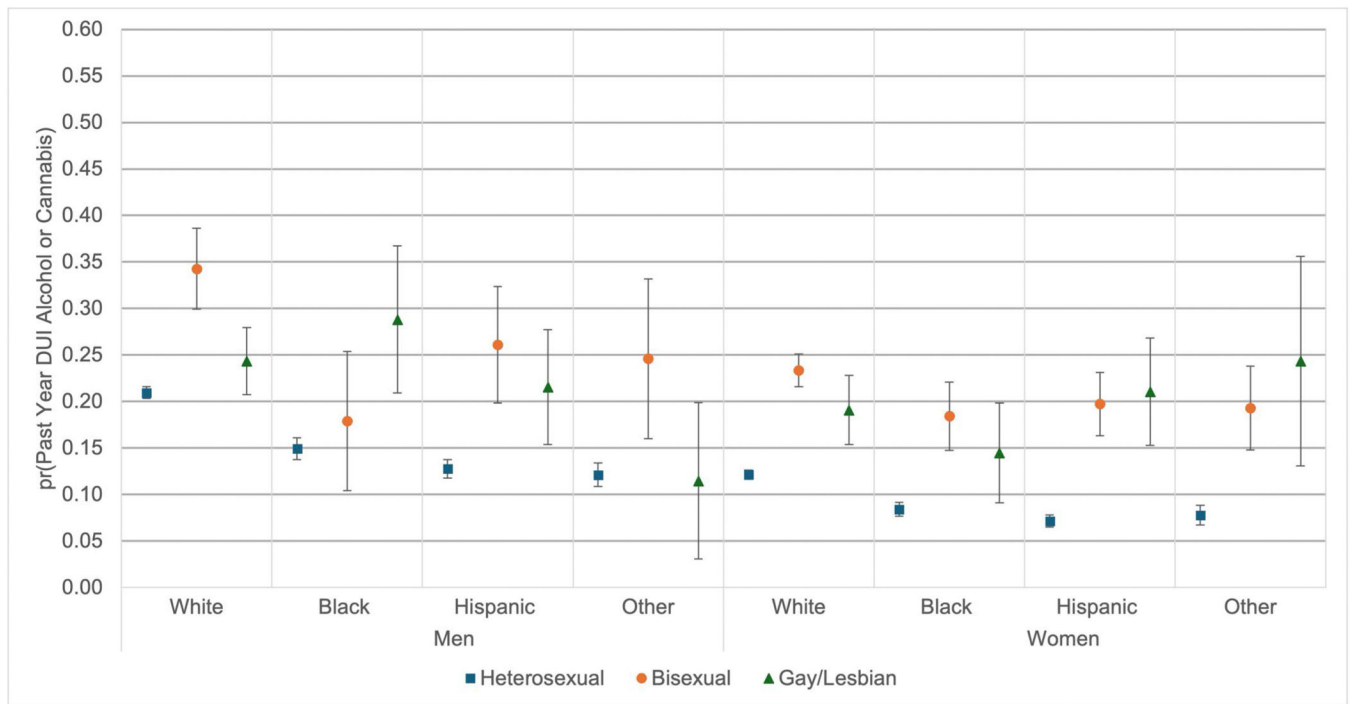


Figure 3.
Probability of past-year driving under the influence of alcohol or cannabis by sexual identity, race/ethnicity, and gender among US adults who used alcohol or cannabis in the past year (2016–2019).

Unadjusted weighted probabilities of past-year driving under the influence by sexual identity across sociodemographic characteristics among U.S. adults (2016–2019)

Table 1.

Sample Characteristics (N = 167590)		DUI Alcohol ^a (n = 119439)			DUI Cannabis ^b (n = 35889)			DUI Alcohol or Cannabis ^c (n = 122430)		
		Heterosexual	Bisexual	Gay/ Lesbian	Heterosexual	Bisexual	Gay/ Lesbian	Heterosexual	Bisexual	Gay/ Lesbian
	Non-weighted n	Non-weighted %	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.	Weighted DUI Pr.
Male	78657	46.9	0.15	0.19	0.18	0.33	0.40	0.19	0.29	0.24
Female	88933	53.1	0.09	0.13	0.15	0.23	0.30	0.11	0.23	0.19
White	101771	60.7	0.13	0.16	0.17	0.30	0.33	0.17	0.26	0.22
Black	21065	12.6	0.08	0.10	0.14	0.28	0.29	0.13	0.18	0.23
Hispanic	28370	16.9	0.09	0.14	0.17	0.27	0.32	0.12	0.23	0.24
Other	16384	9.8	0.08	0.11	0.14	0.27	0.32	0.12	0.21	0.18
18–25	54360	32.4	0.14	0.14	0.18	0.36	0.36	0.23	0.27	0.28
26–34	34175	20.4	0.14	0.16	0.22	0.30	0.31	0.19	0.27	0.28
35–49	44427	26.5	0.13	0.15	0.14	0.27	0.27	0.16	0.21	0.20
50 over	34628	20.7	0.09	0.13	0.13	0.21	0.28	0.11	0.18	0.15
Less than 20K	32217	19.2	0.08	0.11	0.10	0.26	0.33	0.14	0.23	0.17
20–49K	51724	30.9	0.10	0.14	0.19	0.29	0.32	0.14	0.23	0.24
50–74K	26331	15.7	0.12	0.13	0.14	0.31	0.34	0.16	0.24	0.21
75K	57318	34.2	0.14	0.19	0.19	0.29	0.31	0.16	0.27	0.23
Large	75020	44.8	0.12	0.15	0.17	0.28	0.29	0.15	0.24	0.22
Small	59326	35.4	0.12	0.14	0.18	0.30	0.35	0.16	0.26	0.22
Nonmetro	33244	19.8	0.11	0.13	0.09	0.28	0.40	0.14	0.26	0.17
Not Married	98905	59.0	0.13	0.15	0.17	0.31	0.34	0.18	0.27	0.23
Married	68685	41.0	0.11	0.12	0.15	0.24	0.26	0.12	0.18	0.18

Note: DUI, Driving Under the Influence; Pr., probability

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ϵ Probability of past-year DUI alcohol among adults who used alcohol in the past year.
 η Probability of past-year DUI cannabis among adults who used cannabis in the past year.
 ζ Probability of past-year DUI alcohol or DUI cannabis among adults who use alcohol or cannabis in the past year.

Table 2. Sexual identity gaps in past-year driving under the influence by race/ethnicity and gender among U.S. adults (2016–2019)

		DUI Alcohol			DUI Cannabis			DUI Alcohol or Cannabis		
		Pr(DUI)	Sexual Identity Gap	Contrasts	Pr(DUI)	Sexual Identity Gap	Contrasts	Pr(DUI)	Sexual Identity Gap	Contrasts
Men	White	0.16			0.30			0.21		
	<i>a</i>	Heterosexual	0.22	0.06 *	<i>l</i>	0.39	0.09 *	0.34	0.13 *	<i>b, c, h, j, l</i>
	<i>b</i>	Bisexual	0.18	0.02	<i>d, m, n</i>	0.26	-0.05	0.24	0.03	<i>a, d, e, i, k, m, n, o, p</i>
	Black									
	<i>c</i>	Heterosexual	0.09			0.28		0.15		
	<i>d</i>	Bisexual	0.13	0.04		0.35	0.08	0.18	0.03	<i>a, d, e, i, m, n</i>
	<i>e</i>	Gay	0.21	0.11 *	<i>b, h, l</i>	0.35	0.07	0.29	0.14 *	<i>b, c, h</i>
	Hispanic									
	<i>f</i>	Heterosexual	0.10			0.25		0.13		
	<i>g</i>	Bisexual	0.14	0.05		0.40	0.15 *	0.26	0.13 *	<i>b, c, h</i>
Women	White									
	<i>i</i>	Gay	0.15	0.05		0.28	0.04	0.22	0.09 *	
	Black									
	<i>j</i>	Heterosexual	0.08			0.29		0.12		
	<i>k</i>	Bisexual	0.12	0.04	<i>n</i>	0.43	0.14	0.25	0.13 *	<i>h</i>
	<i>l</i>	Gay	0.08	0.00	<i>d, n, p</i>	0.12	-0.17 *	0.11	-0.01	<i>a, d, e, g, i, k, m, n, o, p</i>
	Hispanic									
	<i>m</i>	Heterosexual	0.09			0.21		0.12		
	<i>n</i>	Bisexual	0.13	0.04 *	<i>n</i>	0.30	0.09 *	0.23	0.11 *	<i>b, c, h, j</i>
	<i>o</i>	Gay	0.16	0.06 *		0.18	-0.03	0.19	0.07 *	<i>a, i, m</i>
Other	White									
	<i>p</i>	Heterosexual	0.06			0.19		0.08		
	<i>q</i>	Bisexual	0.10	0.04 *	<i>n</i>	0.27	0.08 *	0.18	0.10 *	<i>b, h</i>
	<i>r</i>	Gay	0.07	0.01	<i>a, d, m, n, p</i>	0.24	0.05	0.14	0.06 *	<i>a, m, n</i>
	Black									
	<i>s</i>	Heterosexual	0.06			0.18		0.07		
	<i>t</i>	Bisexual	0.13	0.07 *	<i>b, l</i>	0.26	0.08 *	0.20	0.13 *	<i>b, c, h, j, l</i>
	<i>u</i>	Gay	0.18	0.12 *	<i>b, g, h, i, k, l, o</i>	0.30	0.13	0.21	0.14 *	<i>b, c, h, l</i>
	Hispanic									
	<i>v</i>	Heterosexual	0.06			0.15		0.08		
Other	White									
	<i>w</i>	Bisexual	0.10	0.05 *	<i>n</i>	0.27	0.12 *	0.19	0.12 *	<i>b, h</i>
	<i>x</i>	Gay	0.21	0.16 *	<i>h, l</i>	0.28	0.13	0.24	0.17 *	<i>b, h</i>
	Black									
	<i>y</i>	Heterosexual	0.06			0.15		0.08		
	<i>z</i>	Bisexual	0.13	0.07 *	<i>b, l</i>	0.26	0.08 *	0.20	0.13 *	<i>b, c, h, j, l</i>
	<i>aa</i>	Gay	0.18	0.12 *	<i>b, g, h, i, k, l, o</i>	0.30	0.13	0.21	0.14 *	<i>b, c, h, l</i>
	Hispanic									
	<i>ab</i>	Heterosexual	0.06			0.15		0.08		
	<i>ac</i>	Bisexual	0.13	0.07 *	<i>b, l</i>	0.26	0.08 *	0.20	0.13 *	<i>b, c, h, j, l</i>
	<i>ad</i>	Gay	0.18	0.12 *	<i>b, g, h, i, k, l, o</i>	0.30	0.13	0.21	0.14 *	<i>b, c, h, l</i>

Notes: DUI, driving under the influence; Pr, probability. The “sexual identity gap” column reports the sexual identity gap for bisexual and gay adults in comparison to heterosexual adults (reference category) within the same race, ethnicity, and gender subgroup. The “contrasts” column reports which sexual identity gaps are significantly different across race, ethnicity, and gender subgroups (second differences).

*
 $p < 0.05$, two-tailed tests.

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