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Sexual Identity Disclosure and Alcohol Experiences Among LGBTQ+ Adolescents

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ABSTRACT

Sexual and gender minority youth (SGMY) report greater alcohol use in comparison to their heterosexual counterparts. Prior research has found that elevated alcohol use among SGMY can be explained by minority stress experiences. Sexual identity outness may be another factor that drives alcohol use among SGMY, given that outness is associated with alcohol use among older sexual and gender minority samples. We examined how patterns of sexual identity outness were associated with lifetime alcohol use, past-30-day alcohol use, and past-30-day heavy episodic drinking. Data were drawn from the LGBTQ National Teen Survey ($N=8884$). Participants were SGMY aged 13 to 17 (mean age = 15.59) years living in the US. Latent class analysis was used to identify sexual identity outness patterns. Multinomial regressions were used to examine the probability of class membership by alcohol use. Six outness classes were identified: *out to all but teachers* ($n=1033$), *out to siblings and peers* ($n=1808$), *out to siblings and LGBTQ+ peers* ($n=1707$), *out to LGBTQ+ peers* ($n=1376$), *mostly not out* ($n=1653$), and *very much not out* ($n=1307$). SGMY in classes characterized by greater outness to peers, friends, and family had greater odds of lifetime alcohol use compared with SGMY in classes characterized by lower outness. These findings suggest that SGMY with greater sexual identity outness may be a target for alcohol use prevention programming. Differences in sexual identity outness may be explained by minority stress factors.

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Alcohol use; coming out; LGBTQ+ outness; youth

Introduction

Although alcohol use among all adolescents has declined over the past few decades, disparities remain in alcohol use between sexual and gender minority youth (SGMY) and heterosexual/cisgender youth.¹⁻⁴ Compared with heterosexual and cisgender youth, SGMY are more likely to report lifetime alcohol use, greater frequency of alcohol use and heavy episodic drinking (HED), and binge drinking behaviors.^{1,3-6} These behaviors may persist into adulthood, placing SGMY at risk for alcohol use disorders and alcohol dependence.^{2,7-9}

Disparities between SGMY and heterosexual/cisgender youth's alcohol use can be explained in part by minority stress theory. Minority stress theory proposes that in addition to general life stressors, sources of stress related to one's sexual or gender minority identity can influence poor mental health and well-being outcomes.¹⁰ These stressors can be chronic and may

lead to the expectation of future discrimination and internalization of negative societal attitudes about sexual and gender minority people.¹⁰ Sexual and gender minority stressors at the structural (e.g., laws and policies), distal (e.g., victimization), and proximal (e.g., internalized stigma) levels exert an influence on sexual minority individuals' health and well-being.¹⁰ In particular, identity concealment can be a proximal stressor due to the stress of hiding one's identity and expectations of rejection.¹¹ Coping skills, resilience, identity pride, and social support (such as from peers, family, and community) can help to buffer the effects of minority stressors on negative health outcomes.^{10,12}

Extant research has documented a robust link between elevated and problematic alcohol use and minority stressors among SGMY.¹³⁻¹⁷ For instance, among 8th-grade SGMY, homophobic teasing was associated with higher alcohol use, whereas a more positive school climate was associated with lower alcohol use.¹³

In a sample of bisexual high school-aged youth, those who experienced electronic bullying had higher odds of alcohol use.¹⁴ Furthermore, among SGMY aged 13 to 17, higher SGMY-based victimization and internalized stigma were associated with higher odds of recent alcohol use and heavy episodic drinking.¹⁷ Similarly, in a longitudinal sample of SGMY aged 16 to 20, higher levels of sexual orientation-based victimization were associated with greater alcohol use for female youth.¹⁶ In the same study and across all time points, family support was associated with lower alcohol use.¹⁶

SGMY and emerging adults may drink to cope with minority stressors. In a study of sexual minority emerging adults, coping motives mediated the relationship between high sexual minority stress and high alcohol use.¹⁵ Additionally, alcohol consumption among SGMY may be driven by perceived LGBTQ+ community norms related to alcohol use, given that SGMY report more permissive social norms surrounding alcohol consumption.^{18,19} Indeed, adolescence marks a developmental stage during which alcohol consumption is a social experience that can facilitate a sense of belonging among peers.²⁰ Taken together, it is clear that alcohol use among SGMY is attributable to a variety of factors such as minority stress factors and community norms.

Despite a large body of evidence that links minority stressors to alcohol use among SGMY, little research has explored the relations between outness (i.e., “coming out”) and alcohol use among SGMY. Disclosure of sexual identity is important to consider as research has linked the process to both positive and negative health and well-being outcomes. Coming out is a lifelong process that involves self-disclosure of one’s sexual identity. Early coming out models framed the process as linear, with the ultimate goal being disclosure to others in one’s life.^{21,22} More recent scholarship conceptualizes coming out as a more complex process that requires sexual minority individuals to manage their outness in a variety of contexts and among a variety of people. For instance, SGMY may be out to friends but not to parents, to siblings but not to parents, or to one parent but not the other.^{23,24} Outness has been found to differ on the basis of sexual identity, gender identity, race/ethnicity, and geographic location.^{25–27} It is important to note that identity concealment is conceptually different than identity disclosure.²⁸ Whereas motivations for disclosure may include the desire to gain greater closeness to a disclosure partner,²⁹ concealment may be driven by a desire to reduce the risk of rejection or stigma.¹¹

Although SGMY are coming out at younger ages than in previous decades, they still experience sexual

and gender identity-related stigma and discrimination.^{30–33} Furthermore, in adolescence, many SGMY are still dependent on their families for social and instrumental support, and thus SGMY must carefully decide when and to whom to come out.^{29,33} Coming out to others may promote mental well-being and facilitate access to social support from family, friends, and LGBTQ+ community members, but at the same time SGMY may be met with rejection following disclosure. In contrast, identity concealment may generate stress due to the need to manage identity outness, but this concealment may also protect SGMY from discrimination and victimization.^{11,26,34}

Prior research has documented associations between outness and substance use among sexual minority individuals. Among sexual minority adult women, more outness was associated with higher alcohol use among bisexual women, but not among lesbian and gay women.³⁵ Similarly, in a sample of sexual minority adolescents and emerging adults aged 16 to 20, greater outness was associated with higher alcohol use among bisexual individuals, but less alcohol use among lesbian and gay individuals.³⁶ Among emerging adults aged 18 to 29, lower levels of outness were associated with high alcohol use, moderated by perceived distress from heterosexism and high levels of emotion dysregulation.³⁷ In addition, among 18- to 24-year-old sexual minority emerging adults, greater family and peer disclosure was associated with a higher likelihood of being a social drinker compared with a binge drinker or heavy drinker.³⁸ Identity concealment, on the other hand, is associated with lower levels of substance use, perhaps due to less access to social networks in which to engage in substance use.¹¹ Evidently, the link between outness and alcohol use among sexual minority individuals is complex and warrants further study, particularly among SGMY.

It is clear from extant research that outness is associated with alcohol use among young adult and adult samples and that SGMY who experience sources of sexual minority stress may turn to alcohol to cope. However, the link between outness and alcohol use among SGMY, specifically, is unclear. Given that alcohol is not legal or readily accessible for youth, the relationship between outness and alcohol use among SGMY may be different than for emerging adults or adult sexual and gender minority populations. We therefore hypothesized that SGMY’s different patterns of sexual identity outness to parents, siblings, LGBTQ+ friends, non-LGBTQ+ friends, classmates, and teachers would be related to their drinking behavior. We expected to identify an outness class composed of SGMY who were out to most people, a class

composed of SGMY who were out to few people, and classes characterized by mixed outness. Given extant research findings regarding outness and alcohol use, we hypothesized that SGMY in a class, or classes, characterized by greater outness to all or most people would report greater alcohol consumption compared with SGMY in classes characterized by lower outness. Using a large national sample of SGMY, we examined how patterns of sexual identity outness to parents, siblings, LGBTQ+ friends, non-LGBTQ+ friends, classmates, and teachers were associated with lifetime alcohol use, past-30-day alcohol use, and past-30-day HED.

Methods

Data were drawn from the LGBTQ National Teen Survey, which was conducted in partnership with the Human Rights Campaign (HRC) between April and December 2017. Eligible participants were English-speaking, identified as LGBTQ+, were between 13 and 17 years of age, and lived in the United States at the time they completed the survey. A parental waiver of consent was obtained, and data were collected anonymously through Qualtrics. The sample was recruited with assistance from HRC via their social media networks (e.g., Twitter, Facebook, Instagram, Reddit, and Snapchat) and in partnership with social media influencers and HRC's community partners. For their participation, participants received HRC wristbands and the option to enter into a drawing for 1 of 10 Amazon.com gift cards. Study protocols were approved by the Institutional Review Board at the University of Connecticut.

A total of 29,291 youth entered the survey, of whom 17,112 were eligible, completed more than 10% of the survey, and were not screened as mischievous respondents. To capture mischievous responders, a sensitivity analysis identified youth who reported extreme or misleading values on multiple items (see Robinson-Cimpian³⁹ for a review of this procedure). Additionally, youth who provided suspicious or expletive entries for write-in questions were also excluded. For this study, the final sample of 8884 includes youth who answered sexual identity outness items, the 3 alcohol use items, and demographic covariates. Table 1 displays sample demographic characteristics and alcohol use behaviors.

Measures

Outness

We measured participants' sexual identity outness to their parents, siblings, LGBTQ+ friends, non-LGBTQ

Table 1. Frequencies of sample demographics ($N=8884$).

Variable	<i>n</i> /Mean	%/ <i>SD</i>
Age, year	15.59	1.26
Gender identity		
Cisgender male	1853	21%
Cisgender female	3975	45%
Transgender	780	9%
Nonbinary	2276	26%
Race/ethnicity		
White	5944	67%
Black	366	4%
Asian	357	4%
Indigenous, Middle Eastern, Other	94	1%
Latino	881	10%
Multiracial	1242	14%
Sexual orientation		
Gay or lesbian	3352	38%
Bisexual	2999	34%
Queer	418	5%
Pansexual	1267	14%
Asexual	461	5%
Questioning	195	2%
Other	192	2%
Live with family	8529	96%
US region		
Northeast	1645	19%
Midwest	2087	23%
South	3201	36%
West	1951	22%
Alcohol use		
Lifetime alcohol use	–	55%
Past-30-day alcohol use	–	49%
Past-30-day HED	–	17%

HED=heavy episodic drinking.

+ friends, classmates, and teachers. For each context, participants were asked "How many people currently do you think know of your sexual orientation? If you don't have any people like this in your life, please select N/A." Response options ranged from none (0) to all (4). Participants who chose N/A for all outness contexts were not included in these analyses.

Alcohol use

We assessed alcohol use using 3 questions from the 2015 Youth Risk Behavior Survey (YRBS).⁴⁰ To measure lifetime alcohol use, we asked "During your life, on how many days have you had at least one drink of alcohol?" Response options ranged from 0 days (0) to 100 or more days (6). For participants who reported any lifetime alcohol use, we assessed the frequency of drinking and HED in the past 30 days. We assessed past-30-day alcohol use by asking "During the past 30 days, on how many days did you have at least one drink of alcohol?" Response options ranged from 0 days (0) to all 30 days (6). Last, we measured HED by asking "During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?" Response options ranged from 0 days (0) to all 30 days (6). We dichotomized the alcohol variables such that a response of

Table 2. Demographic frequencies by class.

Variable	Out to siblings and LGBTQ+ peers <i>n</i> = 1707	Out to LGBTQ+ peers <i>n</i> = 1376	Out to siblings and peers <i>n</i> = 1808	Out to all but teachers <i>n</i> = 1033	Mostly not out <i>n</i> = 1653	Very much not out <i>n</i> = 1307	<i>F</i> / χ^2	<i>P</i>
Age, year	15.58 ^{bd}	15.50 ^{ad}	15.78 ^c	15.80 ^c	15.51 ^{ab}	15.39	24.30	<.001
Gender identity								
Cisgender male	14%	22%	20%	38%	19%	18%	243.18	<.001
Cisgender female	46%	47%	36%	25%	53%	59%	368.03	<.001
Transgender	10%	6%	12%	11%	7%	7%	59.80	<.001
Nonbinary	30%	26%	32%	26%	22%	16%	130.45	<.001
Race/ethnicity								
White	72%	60%	72%	67%	63%	66%	87.14	<.001
Black	3%	6%	3%	5%	5%	4%	36.01	<.001
Asian	3%	5%	2%	2%	6%	5%	64.91	<.001
Indigenous, Middle Eastern, Other	1%	1%	1%	2%	1%	1%	5.79	.33
Latino	8%	13%	8%	11%	10%	10%	22.29	<.001
Multiracial	13%	16%	14%	14%	15%	13%	5.60	.35
Sexual orientation								
Gay/lesbian	35%	36%	46%	60%	28%	26%	433.75	<.001
Bisexual	33%	36%	26%	20%	42%	43%	242.69	<.001
Queer	6%	5%	6%	4%	4%	3%	290.14	<.001
Pansexual	16%	15%	15%	12%	13%	12%	18.67	.01
Asexual	6%	5%	3%	1%	7%	8%	15.95	<.001
Questioning	1%	1%	1%	1%	3%	6%	95.20	<.001
Other	3%	2%	3%	2%	2%	2%	123.35	.38
Live with family	95%	96%	95%	95%	97%	97%	14.92	.01
US region							6.24	
Northeast	19%	18%	19%	21%	18%	17%	3.97	.28
Midwest	23%	23%	25%	25%	23%	23%	21.54	.55
South	36%	39%	33%	34%	37%	38%	10.67	<.001
West	23%	20%	24%	20%	22%	21%	14.92	.06
Alcohol use								
Lifetime alcohol use	55%	52.9%	55.7%	62.1%	67.0%	51.8%	43.3%	177.35***
Past-30-day alcohol use	49%	25.2%	25.9%	30.6%	37.9%	25.0%	20.1%	19.82**
Past-30-day HED	17%	8.4%	8.1%	11.2%	14.9%	8.2%	6.2%	22.27***

Note. Rows with the same letter did not significantly differ.
HED = heavy episodic drinking.

0 days (i.e., no reported drinking for the given outcome) was coded as 0, and any other response was coded as 1. Table 1 displays alcohol use frequencies for the entire sample, and Table 2 displays by class.

Demographic covariates

Demographic covariates included participants' age, gender identity (cisgender female, cisgender male, transgender, or nonbinary), sexual orientation (gay or lesbian, bisexual, queer, pansexual, questioning, or something else), race/ethnicity (White, Black, Asian, Hispanic/Latino, Indigenous/Middle Eastern/Other, and Multiracial), state of residence, and living arrangement (living alone; living with mother, father, adoptive mother, adoptive father, siblings, lover/partner, friend(s), grandparent(s), uncle(s)/aunt(s), stepparent(s), foster parent(s), or other parent; living in a group home, homeless, or other). We recoded state of residence into 4 US geographic regions (Northeast, South, Midwest, and West). We combined living arrangement responses into a new variable that assessed whether participants lived with at least 1

parent. Participants who reported living with a mother, father, adoptive mother/father, stepparent, foster parent, or other parent were coded as living with a parent. Participants who selected any other option were coded as not living with a parent.

We measured depression, bullying, and family rejection as covariates to identify the latent classes, but we do not present the frequencies of these scales in this paper as they have been reported previously.²⁷ To measure depression, we used a 10-item version of the 11-item Kutcher Adolescent Depression Scale.⁴¹ A question about suicidality was dropped due to the receipt of the parental waiver of consent. Cronbach's alpha for this scale was 0.89. We measured bullying using the average of 3 items that captured bullying experiences over the past 12 months on school property and off of school property. Cronbach's alpha for this scale was not computed because the items were dichotomous. To measure family rejection, we averaged 4 items that assessed LGBTQ-specific family rejection.⁴² Cronbach's alpha for this scale was 0.89.

Analytic plan

We used latent class analysis (LCA) to identify outness patterns. We managed data in *R* and conducted analyses in *Mplus* 8.5.^{43,44} In addition, we used the *R* packages *MplusAutomation* and *ggplot2* to construct tables and visualize data.^{45,46} Although LCA models use full information likelihood estimation to manage missing data, regression models use listwise deletion to account for missing data. Thus, we restricted the LCA model to complete responses across all outness items and demographic variables in order to retain the same sample size in the LCA models and the covariate model. One percent of the sample was missing on lifetime alcohol use and 45% of the sample was missing for past-30-day alcohol use and HED as they did not report any lifetime drinking. We considered these past-30-day alcohol use data missing at random because the data were treated as missing when youth responded no to lifetime alcohol use and thus are related to observed variables in the data. Further, simply imputing zeros for youth who reported no lifetime drinking might overestimate the number of zeros, as some youth might have truly been missing on these items and their true response unknown. Therefore, we used multiple imputation (MI) with 50 datasets to retain the full sample for the regression models. When relevant variables are included in estimating the MI datasets, the average across datasets should be similar to the original sample. We found that the MI and original datasets were similar for lifetime drinking (i.e., 55%), but lower for past-30-day drinking (49% vs 42%) and HED (17% vs 13%). All covariates and depression, bullying, and family rejection were used as variables in the MI model, and outness indicators were used as auxiliary variables. Depression, bullying, and family rejection were examined as predictors of outness class membership in a previously published paper.²⁷ In order to retain the same sample size and thus the same classes, we include these 3 variables in the current model.

We first estimated the LCA up to 9 classes. To evaluate model fit, we used the sample size adjusted Bayesian information criterion (aBIC), with values closer to zero indicating better model fit.⁴⁷ We also used the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMR-LRT) and Lo-Mendell-Rubin likelihood ratio test (LMR-LRT), where a *P* value above .05 indicated that the *k*-1 class model did not have worse fit compared to the *k*-class model.⁴⁸ To select the final model, we considered theory and relative entropy, where values closer to 1 indicate better class separation.

Finally, multinomial regressions were estimated to examine the probability of class membership by each alcohol use variable. We used the R3STEP command in *Mplus* to account for class misclassification. These models were run on the MI datasets. Associations between covariates and class membership are published elsewhere;²⁷ in the current paper, we report the adjusted odds ratios for the alcohol use variables.

Results

Participant demographics

Participants' mean age was 15.59 years. Participants were mostly cisgender female (45%), White (67%), gay/lesbian (38%), or bisexual (34%) and from the South (36%), and most lived with family (96%). A majority (55%) of the sample had ever used alcohol in their lifetime. Of those who had ever used alcohol, 49% reported past-30-day alcohol use and 17% reported past-30-day HED.

Latent class models

We selected the 6-class model over the 5-class model based on statistical and theoretical fit. The 6-class model had lower Akaike information criterion (AIC; 122769.22), Bayesian information criterion (BIC; 123825.93), and aBIC (123352.43) values compared to the 5-class model (AIC: 123647.34; BIC: 124526.75; aBIC: 124132.70) and had a nonsignificant VLMR-LRT and LMR-LRT. Additionally, the 6-class model surpassed the minimum value (5%) for the proportion of the sample in each class. The most likely profile assignment was 12% (*n*=1033), and the smallest estimated profile assignment was 13% (*n*=1112.04). Furthermore, the 6-class model included an additional class that was characterized by outness to LGBTQ+ friends only. Model fit indices for the 7-class model suggested little improvement compared to the 6-class model. Moreover, the 6-class model was more parsimonious.

The 6 classes were *out to all but teachers* (*n*=1033), *out to siblings and peers* (*n*=1808), *out to siblings and LGBTQ+ peers* (*n*=1707), *out to LGBTQ+ peers* (*n*=1376), *mostly not out* (*n*=1653), and *very much not out* (*n*=1307). Classes were characterized by the items in the class that exceeded a 50% probability of endorsement; we named each class based on the items in each class that had a high probability of endorsement. SGMY in the *out to all but teachers* class had a high probability of being out to all parents, siblings, LGBTQ+ friends, non-LGBTQ+ friends, and peers.

SGMY in the *out to siblings and peers* class were characterized by a high probability of outness to all siblings, all LGBTQ+ friends, and most classmates. SGMY in the *out to siblings and LGBTQ+ peers* class had a high probability of outness to all siblings, all LGBTQ+ friends, few classmates, and no teachers. SGMY in the *out to LGBTQ+ peers* class had a high probability of outness to all LGBTQ+ friends and no siblings. SGMY in the *mostly not out* class had a high probability of outness to few classmates, no parents, no siblings, and no teachers. Finally, SGMY in the *very much not out* class had a high probability of being out to few non-LGBTQ+ friends, no classmates,

no parents, no siblings, and no teachers. Table 2 displays class demographic frequencies by age, gender identity, race/ethnicity, sexual orientation, living status, geographic region, and alcohol use.

Alcohol use by class

The adjusted multinomial logistic regression models (Table 3) display a comparison of alcohol use outcomes for each class compared to all other classes. The odds ratios presented in the table reflect the odds of engaging in the alcohol use outcome compared to the reference class and compared to SGMY who did

Table 3. Association between alcohol use variables and class membership.

Reference group: out to siblings and LGBTQ+ peers															
	Out to LGBTQ+ peers			Out to siblings and peers			Out to all but teachers			Mostly not out			Very much not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	1.20	0.10	.08	1.44	0.10	<.001	1.81	0.11	<.001	1.02	0.10	.82	0.72	0.10	<.001
Past-30-day alcohol use	0.98	0.13	.85	0.98	0.13	.85	1.16	0.13	.23	1.02	0.13	.88	1.01	0.13	.97
Past-30-day HED	0.95	0.19	.80	1.07	0.17	.68	1.25	0.17	.19	1.04	0.18	.85	0.92	0.19	.67
Reference group: out to LGBTQ+ peers															
	Out to siblings and LGBTQ+ peers			Out to siblings and peers			Out to all but teachers			Mostly not out			Very much not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	0.84	0.10	.08	1.21	0.10	.07	1.51	0.12	<.001	0.86	0.11	.14	0.60	0.10	<.001
Past-30-day alcohol use	1.03	0.13	.85	1.00	0.13	1.00	1.19	0.13	.18	1.05	0.13	.74	1.03	0.13	.82
Past-30-day HED	1.05	0.19	.80	1.13	0.19	.54	1.31	0.20	.18	1.09	0.21	.69	0.97	0.20	.88
Reference group: out to siblings and peers															
	Out to siblings and LGBTQ+ peers			Out to LGBTQ+ peers			Out to all but teachers			Mostly not out			Very much not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	0.69	0.10	<.001	0.83	0.10	.07	1.25	0.11	.04	0.71	0.09	<.001	0.50	0.10	<.001
Past-30-day alcohol use	1.02	0.13	.85	1.00	0.13	1.00	1.19	0.13	.17	1.05	0.12	.71	1.03	0.13	.82
Past-30-day HED	0.93	0.17	.68	0.89	0.19	.54	1.16	0.17	.38	0.96	0.17	.83	0.86	0.18	.40
Reference group: out to all but teachers															
	Out to siblings and LGBTQ+ peers			Out to LGBTQ+ peers			Out to siblings and peers			Mostly not out			Very much not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	0.55	0.11	<.001	0.66	0.12	<.001	0.80	0.11	.04	0.57	0.11	<.001	0.40	0.11	<.001
Past-30-day alcohol use	0.86	0.13	.23	0.84	0.13	.18	0.84	0.13	.17	0.88	0.13	.30	0.87	0.13	.27
Past-30-day HED	0.80	0.17	.19	0.77	0.20	.18	0.86	0.17	.38	0.83	0.18	.29	0.74	0.20	.13
Reference group: mostly not out															
	Out to siblings and LGBTQ+ peers			Out to LGBTQ+ peers			Out to siblings and peers			Out to all but teachers			Very much not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	0.98	0.10	.82	1.17	0.11	.14	1.41	0.09	<.001	1.77	0.11	<.001	0.70	0.10	<.001
Past-30-day alcohol use	0.98	0.13	.88	0.96	0.13	.74	0.96	0.12	.71	1.14	0.13	.30	0.99	0.14	.91
Past-30-day HED	0.97	0.18	.85	0.92	0.21	.69	1.04	0.17	.83	1.20	0.18	.29	0.89	0.21	.59
Reference group: very much not out															
	Out to siblings and LGBTQ+ peers			Out to LGBTQ+ peers			Out to siblings and peers			Out to all but teachers			Mostly not out		
	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P	OR	SE	P
Lifetime alcohol use	1.40	0.10	<.001	1.67	0.10	<.001	2.02	0.10	<.001	2.52	0.11	<.001	1.43	0.10	<.001
Past-30-day alcohol use	1.00	0.13	.97	0.97	0.13	.82	0.97	0.13	.82	1.16	0.13	.27	1.02	0.14	.91
Past-30-day HED	1.08	0.19	.67	1.03	0.20	.88	1.16	0.18	.40	1.35	0.20	.13	1.12	0.21	.59

Note: Adjusted for age, gender identity, sexual identity, race/ethnicity, geographic region, living arrangement, depression, bullying, and family rejection

HED=heavy episodic drinking.

not engage in the alcohol use outcome. SGMY who reported lifetime alcohol use had higher odds of membership in the *out to all but teachers* class compared with the *out to siblings and peers* class (odds ratio [OR]=1.25, $P = .04$), *out to siblings and LGBTQ+peers* (OR=1.81, $P < .001$), *out to LGBTQ+peers* (OR=1.51, $P < .001$), *mostly not out* (OR=1.77, $P < .001$), and *very much not out* (OR=2.52, $P < .001$) classes compared to SGMY who did not report any lifetime alcohol use. In addition, SGMY who reported lifetime alcohol use had higher odds of membership in the *out to siblings and peers* class compared to the *out to siblings and LGBTQ+peers* (OR = 1.44, $P < .001$), *mostly not out* (OR=1.41, $P < .001$), and *very much not out* (OR=2.02, $P < .001$) classes compared to SGMY who did not report any lifetime alcohol use. SGMY who reported lifetime alcohol use had higher odds of membership in the *out to siblings and LGBTQ+peers* class compared to the *very much not out* class (OR=1.40, $P < .001$) compared to SGMY who did not report any lifetime alcohol use. SGMY who reported lifetime alcohol use had higher odds of membership in the *out to LGBTQ+peers* class compared to the *very much not out* class (OR=1.67, $P < .001$) compared to SGMY who did not report any lifetime alcohol use. Finally, SGMY who reported lifetime alcohol use had higher odds of membership in the *mostly not out* class compared to the *very much not out* class (OR = 1.43, $P < .001$) compared to SGMY who did not report any lifetime alcohol use.

There were no significant differences in lifetime alcohol use between the *out to LGBTQ+peers* and *mostly not out* classes; between the *out to siblings and peers* and *out to LGBTQ+peers* classes; between the *out to siblings and LGBTQ+peers* and *out to LGBTQ+peers* classes; and between the *out to siblings and LGBTQ+peers* and the *mostly not out* classes. Across all class comparisons, after adjusting for covariates there were no significant differences in class membership based on past-30day drinking and HED.

Discussion

SGMY differ in their sexual identity outness across social contexts—these outness patterns have implications for SGMY's drinking behaviors. Using a national sample of 8814 SGMY, LCA, and multinomial regression, we found that SGMY in classes characterized by greater outness to peers, friends, and family (e.g., the *out to all but teachers* and *out to siblings and peers* classes) reported greater odds of lifetime alcohol use compared with SGMY in classes characterized by

lower levels of outness. One potential explanation for these findings is that greater sexual identity outness provides SGMY with a wider peer network in which to consume alcohol. By disclosing their sexual identities, SGMY may gain greater access to opportunities for alcohol consumption, particularly among other SGMY peers.⁴⁹ Past work has found that social networks can have a substantial influence on drinking patterns and initiation.^{50–53} In addition, SGMY report greater descriptive and injunctive norms surrounding alcohol use compared with heterosexual/cisgender individuals.^{18,19} However, youth in classes defined by lower levels of outness may have smaller or more restricted social networks that contain sexual minority peers, leading to fewer social situations in which alcohol might be present. Additionally, those in classes defined by lower levels of outness may also intentionally restrict their social networks to manage their sexual minority identity outness and avoid identity disclosure in new settings.⁵⁴

The relation between greater sexual identity outness and greater odds of lifetime alcohol use may also be explained by victimization and bullying—SGMY who are out about their sexual diverse identities may engage in drinking behavior to cope with sexual and gender minority victimization experiences.^{55,56} As SGMY experience these distal stressors, they may socialize or seek community with other stigmatized SGMY. These social bonds may facilitate alcohol consumption as youth collectively seek to cope with minority stress. In order to avoid victimization and bullying, some SGMY may not disclose their sexual identities, which could explain why youth with lower outness had lower odds of lifetime alcohol use. This finding mirrors research that has established a negative association between sexual identity concealment and substance use problems.¹¹ Though in the current study, SGMY with lower outness had lower odds of alcohol use, lower levels of outness may not always be protective given that concealment has also been linked to depression, anxiety, distress, and problematic eating.¹¹ Future research is necessary to disentangle the reasons for greater odds of lifetime alcohol use among SGMY with greater outness compared to those with lower outness.

Additional factors that may explain the association between greater outness and greater lifetime alcohol use are personality and parental acceptance and rejection. For instance, the personality trait extraversion is associated with both greater outness⁵⁷ and greater alcohol consumption.⁵⁸ Research has shown that greater perceived parental support is associated with reduced substance use among SGMY and sexual and

gender minority young adults.^{16,59,60} In the present study, youth in the outness class characterized by outness to parents (*out to all but teachers*) had the greater odds of lifetime alcohol use relative to all other classes. It may be that parental support and rejection following disclosure moderated the relationship between greater outness and greater lifetime alcohol use, although additional longitudinal research is necessary to test this relationship. Of note, after adjusting for covariates, we found no significant differences in class membership by past-30-day drinking and HED. The prevalence of past-30-day alcohol consumption across classes was generally lower than the prevalence of lifetime alcohol use across the classes. It is possible that because our sample was not of legal age to purchase and consume alcohol, outness was less relevant for past-30-day alcohol use than for any lifetime alcohol use. Moreover, the timing of identity disclosure may explain this nonsignificant finding. For instance, although a longitudinal analysis found that alcohol consumption increased over time for sexual and gender minority adolescents and young adults,¹⁶ identity disclosure timing might influence this pattern. Perhaps SGMY who have more recently begun to disclose their identities to others engage in greater alcohol use to cope with stress or because of community norms. Over time, however, this pattern may level out as SGMY continue to disclose their identities and gain recourses for coping and support. Other mechanisms may better explain differences in recent drinking and HED, such as victimization, harassment, and other minority stressors. Future research may consider these factors in relation to sexual identity disclosure to better understand nuanced differences in alcohol behaviors across SGMY. Furthermore, more research is needed to identify the mechanisms that explain lifetime alcohol use compared to recent alcohol use. For instance, social networks and access to alcohol may influence lifetime alcohol use but may not drive problematic alcohol consumption (i.e., heavy episodic drinking). Nevertheless, our findings regarding lifetime alcohol use and outness among SGMY are relevant given that early alcohol consumption is associated with problematic alcohol use in adulthood.^{61,62}

These findings have implications for alcohol use prevention efforts for SGMY. For example, there is a strong need for more research that explores the mechanisms that link outness to alcohol use among SGMY, such as community norms and minority stress, in order to better tailor prevention interventions to the SGMY population. In addition, intervention designers should be sensitive to the outness levels of the

populations they work with, given that youth with different levels of outness across different contexts may have different motivations for engaging in alcohol use. For instance, youth who are out to their friends and peers may be consuming alcohol due to peer norms, and thus addressing peer norms may be an important mechanism upon which to intervene.^{18,19} However, a recent scoping review of substance use interventions for sexual and gender minority populations found that, to date, interventions have not focused on outness.⁶³

Our findings should be considered in light of several limitations. First, data are from a nonprobability sample and were collected in partnership with HRC. Therefore, the sample may not be generalizable to all SGMY. Second, these data are cross-sectional and thus do not demonstrate a temporal association between outness and alcohol use. It could be that alcohol use precedes disclosure to some or all people in SGMY's familial and peer networks. Longitudinal data are needed to examine how the disclosure process is associated with alcohol use over time. For example, a life course perspective would be useful to examine how the timing of disclosure to others (e.g., in early compared to late adolescence) influences the relationship between outness and alcohol use. Youth who come out at different ages may have different access to both alcohol and to resources for support within and outside of the family system that may attenuate or exacerbate the relationship between outness and alcohol use.⁶⁴ Therefore, future research should consider the age of sexual identity disclosure in relation to alcohol use. Third, by dichotomizing the alcohol variables, some information is lost about the variability in lifetime alcohol use, past-30-day alcohol use, and past-30-day HED across the sample. Fourth, the wording of the outness measure we used ("How many people currently do you think know of your sexual orientation?") may conflate sexual identity disclosure, being perceived as a sexual minority youth by others, or being outed by someone else. Continued development of outness and disclosure measures is essential to ensure construct validity given that outness and disclosure are multidimensional constructs. Fifth, the use of the YRBS measure for HED might underestimate HED behaviors for female youth given that the National Institute of Alcohol Abuse and Alcoholism defines HED as 4 or more drinks for women over 2 hours.⁶⁵ Additionally, the operationalization of HED as 5 or more drinks may be high for youth and may have potentially resulted in an underestimation of HED in the overall sample. Last, we did not assess moderation by sexual identity. Given that greater

outness is associated with greater alcohol use among bisexual emerging adults but not gay/lesbian emerging adults, sexual orientation is an important moderator to consider in future research.³⁶

Conclusions

Our findings suggest that SGMY who are out to their social and familial networks may be an important target for alcohol use prevention programming. Beyond alcohol and substance use prevention, it is important to foster environments—whether at school, among family, or in community spaces—that are supportive of SGMY who are at different stages of the coming out process. Rather than encouraging SGMY to come out or to not to come out, programming efforts should aim to provide support and resources to SGMY at all disclosure levels.

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