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Motivations for alcohol use to intoxication among young adult gay, bisexual, and other MSM in New York City: The P18 Cohort Study

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Abstract

Introduction: Motivations for alcohol use to intoxication vary among young adults depending on social setting and other contextual factors. However, there is limited research exploring the role of different drinking motivations among young men who have sex with men (YMSM).

Methods: Data from a racially/ethnically and socioeconomically diverse sample of YMSM ($n = 426$) were used to examine associations between recent (last 30 days) alcohol use to intoxication and scores on three distinct drinking motivation subscales: convivial, intimate, and negative coping drinking. Multinomial logistic regression models were constructed to examine associations between drinking motivations and days of alcohol use to intoxication, controlling for sociodemographic characteristics.

Results: YMSM who scored higher on all three drinking motivation subscales were more likely to engage in recent alcohol use to intoxication compared to those who reported no alcohol use to intoxication. In multivariable models, Black and Hispanic YMSM had lower odds of intoxication

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Contributors

All authors contributed to conceptualization, analysis, writing and revisions of this study. Annie Ristuccia undertook summarizing a review of the extant literature, conducting statistical analyses, which were guided by Drs. Kapadia and Halkitis, and writing the first draft of the manuscript, Caleb LoSchiavo and Drs. Kapadia and Halkitis edited, revised, and provided critical feedback to numerous drafts of the paper. All authors approved the final manuscript prior to submission.

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Conflict of Interest

All authors declare no conflicts declared.

compared to White YMSM, and those reporting lower perceived familial SES had lower odds compared to higher SES. In a final model including all three motivations, only convivial drinking was significantly associated with days of intoxication (1–2 days: AOR = 1.22; 3+ days: AOR = 1.45).

Conclusions: This study identifies distinct associations between different motivations for drinking and alcohol use to intoxication in a sample of YMSM. These findings highlight a need to incorporate an understanding of motivations for alcohol use to intoxication into research and clinical practice with YMSM, as different reasons for drinking carry respective potential health risks.

Keywords

alcohol use to intoxication; drinking motivations; young men who have sex with men (YMSM)

1. Introduction

Evidence suggests alcohol use and misuse are highly prevalent among gay, bisexual, and other young men who have sex with men (YMSM) and that alcohol-related behaviors often increase between adolescence and young adulthood (Allen, Myers, & Ray, 2015; Coulter, Marzell, Saltz, Stall, & Mair, 2016; Halkitis et al., 2014; Marshal et al., 2008; Newcomb, Ryan, Greene, Garofalo, & Mustanski, 2014; Pollock et al., 2012; Santos, Jin, & Raymond, 2015; Wong, Kipke, & Weiss, 2008). However, there is limited research examining the contextual and situational factors that may distinctly motivate drinking patterns within this population. Numerous studies indicate that YMSM are more likely to engage in higher rates of alcohol use and heavy drinking compared to their heterosexual peers, yet other findings indicate a more complex comparison of how drinking behaviors may differ by sexual orientation (Allen et al., 2015; Coulter et al., 2016; Wong et al., 2008). For example, a study of college students found that gay men reported more frequent alcohol consumption, but significantly less frequent binge drinking compared to heterosexual men (Coulter et al., 2016).

Studies examining situational differences in alcohol use suggest that YMSM more frequently attend bars and nightclubs and engage in heavier alcohol use in these settings compared to their heterosexual peers (Coulter et al., 2016; Greenwood et al., 2001; Jones-Webb, Smolenski, Brady, Wilkerson, & Rosser, 2013). One possible explanation for this difference is that MSM have had a need for these spaces that their heterosexual peers lack. For nearly a century, gay bars have been one of the few places that consistently provide a respite from the isolation and persecution of homophobic society, playing a significant role in community, socialization, and activism (Giesecking, 2016; Hanhardt, 2016a). Due to limited research on contextual drivers of drinking motivations among YMSM, little is known about the potential positive role of gay bars and nightlife spaces.

Among studies that examine reasons for alcohol use among YMSM, findings suggest that use may vary depending on sociocultural norms, setting, and drinking motivations, such as to relax, socialize with peers, cope with psychosocial stressors, and enhance sexual exploration (Feinstein & Newcomb, 2016; Feinstein & Newcomb, 2017; Kubicek, Weiss,

Iverson, & Kipke, 2010; Kuntsche, Knibbe, Gmel, & Engels, 2005; Mutchler, McDevitt, & Gordon, 2014; Tobin, Davey-Rothwell, Yang, Siconolfi, & Latkin, 2014; Van Devanter et al., 2011). Despite similarities in motivations for alcohol use among YMSM and their heterosexual counterparts, the vast majority of research in YMSM populations has narrowly focused on alcohol use in the context of sexual behavior and implications for HIV prevention (Allen et al., 2015; Feinstein & Newcomb, 2016; Feinstein & Newcomb, 2017; Hess et al., 2015; Kubicek et al., 2010; Kuntsche et al., 2005; Mutchler et al., 2011; Mutchler et al., 2014; Santos et al., 2015; Tobin et al., 2014; Van Devanter et al., 2011). The literature is comprised of mixed evidence regarding whether alcohol use to intoxication is associated with engaging in condomless sex and other HIV risk behaviors among YMSM (Feinstein & Newcomb, 2017; Hess et al., 2015; Mutchler et al., 2011; Newcomb & Mustanski, 2014; Pollock et al., 2012; Wong, Schrage, Chou, Weiss, & Kipke, 2013). Although understanding the relationship between alcohol use and sexual behavior is important to HIV prevention, alcohol use to intoxication is associated with a range of other mental and physical health outcomes. As such, understanding the varied motivations for alcohol use to intoxication can inform prevention programming that builds on a more comprehensive approach to how these motives contribute to different alcohol-related outcomes among YMSM.

This study employs the motivational model for alcohol use, which argues that alcohol consumption is driven by the motivation to enhance positive emotions or cope with negative emotions, and measures this utilizing the Drinking Context Scale (DCS; Cox & Kinger, 1988; O'Hare, 2001). The objective of this study is to utilize the DCS to examine the extent to which motivations for drinking are associated with recent alcohol use to intoxication in a sample of YMSM in New York City.

2. Methods

Data for this study are derived from one study visit of the Project 18 (P18) study, which is a prospective cohort study designed to examine syndemic development in a racially/ethnically and socioeconomically diverse sample of YMSM in New York City. Complete study details were previously summarized (Halkitis et al., 2013). Briefly, recruitment included both web-based methods (i.e., posting advertisements online) and venue-based methods (i.e., visiting community centers, bars and clubs, college campuses), and occurred between June 2009 and May 2011. To be eligible, perspective participants had to: be ages 18 – 19 at screening, self-report their HIV serostatus as negative or unknown, identify as assigned male at birth, self-report having sex with a male in the six months preceding screening, and reside in the New York City metropolitan area. A total of $n = 600$ YMSM were enrolled in the study during the initial enrollment period.

At each study visit, participants took part in an audio computer-assisted self-interview (ACASI), a calendar-based timeline follow-back (TLFB) on sexual and substance use behaviors over the preceding 30 days, and a rapid HIV antibody test including pre-and post-test counseling. After baseline, follow-up assessments were conducted at six-month intervals. While the majority of assessments were conducted in-person, some participants who moved away from New York City during the follow-up period completed a survey

remotely via secure website to provide ACASI responses. Since this online survey was completed off-site, the TLFB and HIV testing could not be administered. The P18 Cohort Study received approval for all activities from the Institutional Review Board at New York University and holds a Certificate of Confidentiality from the Department of Health and Human Services.

For this cross-sectional analysis, we utilized data from the final 36-month assessment, where $n = 486$. We removed $n = 60$ participants who took the online survey remotely, as they were missing TLFB data regarding recent alcohol use. As such, this analytic sample includes $n = 426$ participants with complete 36-month data. Potential sociodemographic differences in loss to follow-up were examined using chi-square tests of independence to compare the baseline and 36-month samples, which found no significant differences.

2.1. Measures

2.1.1. Motivations for alcohol use.—Drinking motivations were measured using the 9-item DCS, which asked respondents to indicate whether they were more likely to drink ‘excessively’ in various social and emotional situations (O’Hare, 2001). The nine items comprising the DCS represent three subscales: convivial, intimate, and negative coping drinking. The convivial drinking subscale measured social and situational motivations and included the items, “at a party,” “at a concert or other public event,” and “when I am celebrating something important to me.” The intimate drinking subscale included the items, “with my lover,” “on a date,” and “before having sex.” Finally, the negative coping subscale measured emotional motivations with the items, “when I have had a fight with someone close to me,” “when I am feeling sad, depressed, or discouraged,” and “when I am angry with myself or someone else.” Responses for all items were on a 5-point Likert scale ranging from “strongly disagree” [0] to “strongly agree” [4]. For this study, we examine each subscale distinctly, calculating sum scores ranging from 0 – 12. We calculated Cronbach’s alpha to assess internal consistency of the DCS ($\alpha = 0.91$) and of each subscale (convivial: $\alpha = 0.89$; intimate: $\alpha = 0.86$; negative coping: $\alpha = 0.92$) in this sample.

2.1.2. Alcohol use to intoxication.—All data on alcohol use to intoxication were ascertained using the TLFB, which is a semi-structured and interviewer-administered instrument used to obtain detailed information on alcohol use, other licit and illicit substance use, and sexual behaviors for a 30-day period (Sobell & Sobell, 1992). Alcohol use to intoxication was defined as whether participants reported feeling drunk on a given day to capture the individual’s perceived intoxication, regardless of number of drinks consumed. Participants reported a mean of 2.73 days ($SD = 3.42$) and median of 2 days ($IQR = 4$) of alcohol use to intoxication over the 30-day period. We categorized alcohol use to intoxication as 0 days, 1–2 days, and 3 or more days in the last 30 days.

2.1.3. Covariates.—Self-reported race/ethnicity was categorized as Hispanic/Latino, Black non-Hispanic, White non-Hispanic, and other non-Hispanic, which includes individuals who identified as Asian/Pacific Islander, American Indian or Native American, other, or mixed race. Perceived familial SES was measured at baseline using the item, “What do you perceive the economic class to be of the people who raised you?” with responses

categorized as “lower,” “middle,” and “upper” class. Sexual orientation was measured using the 7-point Kinsey scale (Kinsey, Pomeroy, & Martin, 1948) and was dichotomized for analytic purposes as “exclusively homosexual” and “not exclusively homosexual,” consistent with previous studies of this cohort (Halkitis & Figueroa, 2013; Krause et al., 2016). School enrollment was dichotomized as whether respondents were currently in school or not. Finally, relationship status was also dichotomized as whether respondents reported currently being in a romantic relationship.

2.2. Analytic plan

First, descriptive analyses were conducted to examine the distribution of alcohol use to intoxication in this sample. Next, bivariable analyses were conducted to identify associations between sociodemographic characteristics and motivations for drinking with alcohol use to intoxication, using t-tests and Pearson’s chi-square tests of independence and one-way ANOVA, as appropriate. Similarly, we examined associations between alcohol use to intoxication and each of the three drinking context subscales, as well as their associations with each other, using Spearman’s rank correlations. Multinomial logistic regression models were constructed to examine the distinct relationship between each drinking context with alcohol use to intoxication. Adjusted models included covariates found to be significant ($p < 0.05$) in bivariable analyses. A final adjusted model was constructed to include significant covariates and all three drinking contexts together to assess the relative strength of each with alcohol use to intoxication.

3. Results

In the current sample of $n = 426$ YMSM, the mean age was 21.26 years ($SD = 0.47$) and the majority (92.5%) of participants tested HIV-negative (Table 1). Regarding perceived familial SES, 31.9% identified as lower, 39.7% identified as middle, and 28.2% identified as upper SES. In terms of race/ethnicity, 38% identified as Hispanic/Latino, 15.7% as Black, 29.1% as White, and 17.1% as another race/ethnicity (8.5% mixed, 5.2% Asian or Pacific Islander, and 3.5% Native American). Approximately half (49.8%) of the sample self-identified as exclusively homosexual and 40.4% reported they were currently in a romantic relationship. For alcohol use to intoxication, 32.2% reported zero days, 30.9% reported one to two days, and 36.9% reported three or more days in the last 30 days.

Sociodemographic characteristics that were significantly associated with alcohol use to intoxication include race/ethnicity, HIV status, and perceived familial SES. Participants who identified as Black were more likely to report zero days of alcohol use to intoxication than those who identified as White ($p < 0.001$). HIV-positive participants were more likely to report zero days of alcohol use to intoxication ($p < 0.05$) compared to HIV-negative participants. Finally, participants who reported lower perceived familial SES were more likely to report zero days of intoxication than those who reported middle or higher SES ($p < 0.05$).

Regarding the three drinking subscales, convivial drinking had the highest mean sum score in the sample overall ($M = 5.88$, $SD = 3.19$), followed by intimate ($M = 3.67$, $SD = 2.53$) and negative coping ($M = 3.28$, $SD = 3.02$). The mean sum scores for all three subscales

increased by number of days intoxicated, with the highest being convivial drinking for those who reported three or more days intoxicated ($M = 7.49$, $SD = 2.57$). There were moderate positive correlations between alcohol use to intoxication and all three subscales, with convivial drinking being the strongest association ($r = 0.44$, $p < 0.001$) compared to correlations of $r = 0.31$ ($p < 0.001$) with both intimate and negative coping drinking. The three subscales were also positively associated with each other at the $p = 0.001$ level. All three drinking motivations were significantly associated with school enrollment (convivial: $t = 2.04$, $p = 0.04$; intimate: $t = 3.08$, $p = 0.002$; negative coping: $t = 2.68$, $p = 0.008$), where individuals not currently in school reported higher mean scores for each subscale (Table 2). The negative coping subscale was significantly associated with relationship status ($t = 2.21$, $p = 0.03$), with higher mean scores for those who were not currently in a relationship.

Three separate multinomial logistic regression models, one for each drinking subscale, were constructed with zero days drunk as the referent group (Tables 3 and 4). In unadjusted models, all three drinking contexts were significantly associated with increased odds of being intoxicated on one or two days (unadjusted odds ratio [OR] = 1.20, 95% confidence intervals [CI]: 1.10, 1.30; OR = 1.14, 95% CI: 1.03, 1.26; OR = 1.12, 95% CI: 1.02, 1.22, respectively) and on three or more days in the past month (OR = 1.48, 95% CI: 1.35, 1.63; OR = 1.38, 95% CI: 1.24, 1.53; OR = 1.26, 95% CI: 1.16, 1.37, respectively).

Next, adjusted multinomial models were constructed with zero days drunk as the referent group, controlling for the covariates race/ethnicity, HIV status, and perceived familial SES. All three motivations were associated with increased odds of intoxication on one to two days (convivial: adjusted odds ratio [AOR] = 1.21, 95% CI: 1.11, 1.32; intimate: AOR = 1.15, 95% CI: 1.03, 1.32; negative coping: AOR = 1.28, 95% CI: 1.02, 1.22) and on three or more days in the past month (AOR = 1.52, 95% CI: 1.37, 1.68; AOR = 1.43, 95% CI: 1.28, 1.60; AOR = 1.26, 95% CI: 1.15, 1.38, respectively). Race/ethnicity was associated with reporting three or more days intoxicated, with lower odds for individuals who identified as Black (AOR = 0.16, 95% CI: 0.06, 0.41; AOR = 0.12, 95% CI: 0.05, 0.30; AOR = 0.19, 95% CI: 0.08, 0.46, respectively) or other (AOR = 0.39, 95% CI: 0.17, 0.87; AOR = 0.37, 95% CI: 0.17, 0.80; AOR = 0.45, 95% CI: 0.21, 0.95, respectively).

Finally, a fourth adjusted model included all three drinking motivations together to explain alcohol use to intoxication (Table 4). In the all-contexts model, only convivial drinking was significantly associated with any number of days drunk (one to two days: AOR = 1.22, 95% CI: 1.09, 1.37; three or more days: AOR = 1.45, 95% CI: 1.28, 1.64). Similar to the other adjusted models, those who identified as lower SES were less likely to be intoxicated on one or two days (AOR = 0.40, 95% CI: 0.20 – 0.81) compared to higher SES individuals. Odds of three or more days of intoxication were also lower for individuals who identified their race/ethnicity as Hispanic/Latino (AOR = 0.44, 95% CI: 0.21, 0.89), Black (AOR = 0.16, 95% CI: 0.06, 0.40) or other (AOR = 0.39, 95% CI: 0.17, 0.88) compared to those who were White.

4. Discussion

The present study explored the influence of convivial, intimate, and negative coping drinking motivations on alcohol use to intoxication in a diverse sample of YMSM. Not surprisingly, those with higher levels of drinking motivations reported a greater number of days of alcohol use to intoxication. Unadjusted regression models indicated that each of the drinking contexts were associated with higher odds of being intoxicated on any days compared to those who reported zero days of intoxication in the past month. Across all analyses, mean scores for convivial drinking were higher than scores for both intimate drinking and negative coping drinking across all sociodemographic characteristics.

After adjusting for significant sociodemographic covariates, all of the drinking context models indicated differences by race/ethnicity and perceived familial SES when predicting number of days of intoxication. YMSM who identified as Black or other race/ethnicity were significantly less likely to report any days of alcohol use to intoxication compared to White YMSM. This is consistent with previous research findings that White YMSM engage in higher rates of heavy drinking compared to YMSM of color (Allen et al., 2015; Coulter et al., 2016; Halkitis et al., 2014; Newcomb et al., 2014; Pollock et al., 2012; Wong et al., 2008). Additional research is needed to further evaluate sociodemographic differences in drinking motivations that may elucidate varied drinking patterns among YMSM.

When all three drinking contexts were included in a combined model, only convivial drinking was significantly associated with any days intoxicated. These findings are consistent with previous research in the general population indicating that social drinking motivations are the strongest predictor of alcohol use to intoxication (Kuntsche et al., 2005; Lau-Barraco & Collins, 2011; Talbott et al., 2008). This is noteworthy because the majority of research dedicated to drinking motives among YMSM focuses on intimate and sexual drinking contexts, while scant literature focuses on social drinking contexts. The significant association between alcohol use to intoxication and convivial drinking is important to consider in YMSM populations who are beginning to attend social drinking settings, such as bars and clubs, which may be associated with more frequent alcohol use, but may not have the same negative consequences as intimate and sexual contexts (Coulter et al., 2016; Greenwood et al., 2001; Jones-Webb et al., 2013; Santos et al., 2015).

The findings of this study must be considered alongside its limitations. First, the cross-sectional nature of this analysis limits the ability to draw conclusions about how drinking motives predict alcohol use. Additionally, social desirability bias may impact participant responses to some degree because the TLFB is an interviewer-administered measure that asks about sensitive information, which some participants may feel uncomfortable disclosing. Recall bias may also play a role, as it can be difficult for an individual to remember all behaviors for every day in the last month with complete accuracy, although the TLFB is designed to minimize this (Del Boca & Darkes, 2003; Sobell et al., 1986).

Despite these limitations, this study has particular strength in that it provides insight into the motivations for alcohol use to intoxication in a racially/ethnically and socioeconomically diverse sample of YMSM. The current findings highlight under-researched motivations

associated with alcohol use to intoxication in this population, conceptualizing a broader set of characteristics that shape drinking patterns among YMSM. The finding that YMSM are primarily motivated to drink in social contexts, and not as a negative coping mechanism or sexual risk factor, also has crucial clinical and research implications. In research and clinical settings, patients should be asked not only about the quantity and frequency of their alcohol use, but also about the contexts and motivations for their use because social drinking carries different risks compared to drinking motivated by negative coping (Jones-Webb et al., 2013; Keough, O'Connor, Sherry, & Stewart, 2015; O'Hare, 2001; Tobin et al., 2014; Trocki & Drabble, 2011). Because research has heavily focused on the relationship between substance use and HIV risk among YMSM, less is known about its impact on other areas of health and well-being (Bourne & Weatherburn, 2017). Future research should adopt a more holistic approach to better understand the nuances of interpersonal, psychosocial, and contextual factors driving the development of alcohol-related behaviors among YMSM, as well as how these factors shape drinking motivations.

Finally, consideration must be given to the role of the gay community plays in establishing motivations for and normalization of the use of alcohol and other drugs as a means of social and sexual engagement (Halkitis et al., 2011). Historically, gay bars have been an important social space for the LGBT community, particularly gay men, often serving as the only safe spaces for people to come together in public (Bourne & Weatherburn, 2017; Hanhardt, 2016a). This has shaped the cultural norms of the gay community, especially among young adults, such that the context of gay socialization contributes to the use of, and the norms regarding use of, alcohol and drugs for gay men of all generations (Bourne & Weatherburn, 2017; Halkitis, 2019; Keogh et al., 2009). Socially-motivated substance use may not necessarily be maladaptive or problematic, as gay bars and clubs have long been safe spaces providing both tangible and intangible resources for the LGBT community (Hanhardt, 2016b). Recent events such as the Pulse shooting in Orlando have highlighted the importance of gay and lesbian bars and clubs, where LGBT people across the U.S. continue to seek shelter and support (Croff, Hubach, Currin, & Frederick, 2017).

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Highlights

- In this sample of $n = 426$ emerging adult YMSM, nearly 68% reported being intoxicated at least once in the 30 days prior to assessment.
- Patterns of alcohol use to intoxication differed by race/ethnicity and SES, with lower odds of intoxication among Black and Hispanic YMSM compared to white YMSM and among those reporting lower SES compared to those reporting higher SES.
- Convivial drinking had the highest mean value ($M = 5.88$, $SD = 3.19$) of the three drinking motivations, and was significantly associated with alcohol use to intoxication in all multivariable models.
- A more nuanced assessment of motivations for alcohol use to intoxication among YMSM should be implemented in clinical and research settings to better assess drinking in sexual minority men and the different risks associated with various contexts.

Table 1.

Bivariable associations between sociodemographic characteristics and reported number of days alcohol use to intoxication ($n = 426$).

	<i>n</i> (%)	# days alcohol use to intoxication, last 30 days			<i>p</i> value
		0 days (<i>n</i> = 137)	1 – 2 days (<i>n</i> = 132)	3+ days (<i>n</i> = 157)	
<i>Race/ethnicity</i>					< 0.001
Hispanic/Latino	162 (38.0)	51 (37.2)	56 (42.4)	55 (35.0)	
Black non-Hispanic	67 (15.7)	33 (24.1)	22 (16.7)	12 (7.6)	
White non-Hispanic	124 (29.1)	25 (18.2)	34 (25.8)	65 (41.4)	
Other non-Hispanic	73 (17.1)	28 (20.4)	20 (15.2)	25 (15.9)	
<i>Country of origin</i>					0.522
Born in the US	384 (90.1)	121 (88.3)	122 (92.4)	141 (90.4)	
Born outside the US	41(9.6)	16 (11.7)	10 (7.6)	15 (9.6)	
<i>HIV status</i>					0.045
Negative	394 (92.5)	120 (88.2)	124 (93.9)	150 (95.5)	
Positive	31 (7.3)	16 (11.8)	8 (6.1)	7 (4.5)	
<i>Sexual orientation</i>					0.204
Exclusively homosexual	2112 (49.8)	64 (46.7)	61 (46.2)	87 (55.4)	
Not exclusively homosexual	214 (50.2)	73 (53.3)	71 (53.8)	70 (44.6)	
<i>Perceived familial SES</i>					0.028
Lower	136 (31.9)	55 (40.1)	39 (29.5)	42 (26.9)	
Middle	169 (39.7)	56 (40.9)	49 (37.1)	64 (41.0)	
Upper	120 (28.2)	26 (19.0)	44 (33.3)	50 (32.1)	
<i>School enrollment</i>					0.118
Currently in school	247 (58.0)	73 (53.3)	86 (65.2)	88 (56.1)	
Not in school	179 (42.0)	64 (46.7)	46 (34.8)	69 (43.9)	
<i>Currently in a relationship</i>					0.232
Yes	172 (40.4)	63 (46.0)	52 (39.4)	57 (36.3)	
No	254 (59.6)	74 (54.0)	80 (60.6)	100 (63.7)	
<i>Drinking context</i>					
Convivial drinking ^a	5.88 (3.19)	4.18 (3.32)	5.74 (2.76)	7.49 (2.57)	< 0.001
Intimate drinking ^a	3.67 (2.53)	2.77 (2.60)	3.47 (2.37)	4.62 (2.29)	< 0.001
Negative coping ^a	3.28 (3.02)	2.32 (3.01)	3.12 (2.82)	4.25 (2.91)	< 0.001

Note.

^aDescriptive statistics reported as mean (standard deviation).

Table 2.

One-way ANOVAs and t-tests between sociodemographic characteristics and drinking context subscales ($n = 426$). Table 2. One-way ANOVAs and t-tests between sociodemographic characteristics and drinking context subscales ($n = 426$).

	Convivial			Intimate			Negative Coping		
	<i>M (SD)</i>	<i>F, t</i>	<i>p</i>	<i>M (SD)</i>	<i>F, t</i>	<i>p</i>	<i>M (SD)</i>	<i>F, t</i>	<i>p</i>
<i>Race/ethnicity</i>		0.96	0.410		0.52	0.671		2.19	0.089
Hispanic/Latino	6.02 (3.54)			3.77 (2.80)			3.10 (3.23)		
Black non-Hispanic	5.40 (3.12)			3.87 (2.61)			2.87 (2.85)		
White non-Hispanic	6.10 (2.77)			3.60 (2.35)			3.85 (2.85)		
Other non-Hispanic	5.63 (3.12)			3.40 (2.15)			3.08 (2.85)		
<i>Country of origin</i>		0.95	0.346		1.33	0.185		0.59	0.558
Born in the US	5.93 (3.14)			3.72 (2.54)			3.32 (3.01)		
Born outside the US	5.37 (3.65)			3.17 (2.50)			3.02 (3.09)		
<i>HIV status</i>		1.36	0.176		0.43	0.671		1.07	0.285
Negative	5.94 (3.17)			3.69 (2.53)			3.31 (3.01)		
Positive	5.13 (3.42)			3.48 (2.72)			2.71 (2.97)		
<i>Sexual orientation</i>		0.66	0.507		-0.43	0.665		-0.42	0.672
Exclusively homosexual	5.99(3.18)			3.62 (2.59)			3.22 (3.00)		
Not exclusively homosexual	5.78 (3.20)			3.72 (2.48)			3.34 (3.03)		
<i>Perceived familial SES</i>		0.59	0.556		0.45	0.640		2.13	0.120
Lower	6.00 (3.10)			3.64 (2.52)			3.29 (3.28)		
Middle	5.67 (3.37)			3.57 (2.62)			2.98 (2.80)		
Upper	6.03 (3.04)			3.85 (2.45)			3.72 (2.97)		
<i>School enrollment</i>		2.04	0.042		3.08	0.002		2.68	0.008
Currently in school	5.62 (3.15)			3.35 (2.39)			2.94 (2.77)		
Not in school	6.25 (3.23)			4.11 (2.66)			3.75 (3.27)		
<i>Currently in a relationship</i>		1.79	0.074		1.82	0.070		2.21	0.028
Yes	5.54 (3.35)			3.40 (2.62)			2.89 (2.99)		
No	6.11 (3.06)			3.85 (2.46)			3.54 (3.01)		

Table 3.

Unadjusted multinomial logistic regression models examining predictors of alcohol use to intoxication ($n = 426$).

	Convivial Model OR (95% CI)	Intimate Model OR (95% CI)	Negative Coping Model OR (95% CI)
<i>Convivial drinking</i>			
0 days	1.00	1.00	1.00
1 – 2 days drunk	1.20 (1.10 – 1.30) **	-	-
3+ days drunk	1.48 (1.35 – 1.63) **	-	-
<i>Intimate drinking</i>			
0 days	1.00	1.00	1.00
1 – 2 days drunk	-	1.14 (1.03 – 1.26) *	-
3+ days drunk	-	1.38 (1.24 – 1.53) **	-
<i>Negative coping</i>			
0 days	1.00	1.00	1.00
1 – 2 days drunk	-	-	1.12 (1.02 – 1.22) *
3+ days drunk	-	-	1.26 (1.16 – 1.37) **
<i>Convivial drinking</i>			
1 – 2 days	1.00	1.00	1.00
0 days	0.84 (0.77 – 0.91) ***	-	-
3+ days	1.24 (1.14 – 1.35) ***	-	-
<i>Intimate drinking</i>			
1 – 2 days	1.00	1.00	1.00
0 days	-	0.88 (0.79 – 0.98) *	-
3+ days	-	1.21 (1.10 – 1.33) ***	-
<i>Negative coping</i>			
1 – 2 days	1.00	1.00	1.00
0 days	-	-	0.90 (0.82 – 0.98) *
3+ days	-	-	1.13 (1.04 – 1.22) **

Notes.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$. CI, confidence interval; OR, unadjusted odds ratio.

Table 4.Adjusted multinomial logistic regression models for predictors of alcohol use to intoxication ($n = 426$).

	Convivial Model AOR (95% CI)	Intimate Model AOR (95% CI)	Negative Coping Model AOR (95% CI)	All Contexts Model AOR (95% CI)
1 – 2 days drunk				
Convivial drinking	1.21 (1.11 – 1.32)***	-	-	1.22 (1.09 – 1.37)***
Intimate drinking	-	1.15 (1.03 – 1.28)***	-	0.95 (0.82 – 1.11)
Negative coping	-	-	1.12 (1.02 – 1.22)*	1.03 (0.92 – 1.16)
<i>Race/ethnicity</i>				
White non-Hispanic	1.00	1.00	1.00	1.00
Hispanic/Latino	1.16 (0.58 – 2.33)	1.06 (0.53 – 2.10)	1.19 (0.60 – 2.37)	1.19 (0.59 – 2.41)
Black non-Hispanic	0.70 (0.31 – 1.60)	0.62 (0.27 – 1.39)	0.73 (0.33 – 1.65)	0.74 (0.32 – 1.71)
Other non-Hispanic	0.65 (0.29 – 1.48)	0.62 (0.28 – 1.37)	0.68 (0.30 – 1.51)	0.66 (0.29 – 1.50)
<i>Perceived familial SES</i>				
Upper	1.00	1.00	1.00	1.00
Middle	0.53 (0.28 – 1.02)	0.54 (0.28 – 1.03)	0.55 (0.29 – 1.04)	0.53 (0.28 – 1.02)
Lower	0.40 (0.20 – 0.82)*	0.46 (0.23 – 0.93)*	0.46 (0.23 – 0.92)*	0.40 (0.20 – 0.81)*
<i>HIV status</i>				
Negative	1.00	1.00	1.00	1.00
Positive	0.67 (0.26 – 1.73)	0.65 (0.26 – 1.65)	0.65 (0.26 – 1.63)	0.68 (0.26 – 1.76)
3+ days drunk				
Convivial drinking	1.52 (1.37 – 1.68)***	-	-	1.45 (1.28 – 1.64)***
Intimate drinking	-	1.43 (1.28 – 1.60)***	-	1.06 (0.91 – 1.25)
Negative coping	-	-	1.26 (1.15 – 1.38)***	1.05 (0.94 – 1.18)
<i>Race/ethnicity</i>				
White non-Hispanic	1.00	1.00	1.00	1.00
Hispanic/Latino	0.44 (0.22 – 0.89)*	0.41 (0.21 – 0.80)**	0.55 (0.29 – 1.07)	0.44 (0.21 – 0.89)*
Black non-Hispanic	0.16 (0.06 – 0.41)***	0.12 (0.05 – 0.30)***	0.19 (0.08 – 0.46)***	0.16 (0.06 – 0.40)***
Other non-Hispanic	0.39 (0.17 – 0.87)*	0.37 (0.17 – 0.80)*	0.45 (0.21 – 0.95)*	0.39 (0.17 – 0.88)*
<i>Perceived familial SES</i>				
Upper	1.00	1.00	1.00	1.00
Middle	0.81 (0.41 – 1.62)	0.85 (0.44 – 1.63)	0.85 (0.45 – 1.62)	0.84 (0.42 – 1.69)
Lower	0.55 (0.26 – 1.17)	0.70 (0.34 – 1.44)	0.66 (0.33 – 1.34)	0.57 (0.27 – 1.22)
<i>HIV status</i>				
Negative	1.00	1.00	1.00	1.00
Positive	0.65 (0.22 – 1.91)	0.57 (0.20 – 1.60)	0.59 (0.22 – 1.60)	0.65 (0.22 – 1.91)

Notes.

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

 $p < 0.001$. CI, confidence interval; AOR, adjusted odds ratio.

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