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Ethnic/Racial Differences in Alcohol Use: Does Drinking Refusal Self-Efficacy Matter?

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CRediT statement: Lui led the study conceptualization, design of methods, data collection, conducted and supervised data analyses, led manuscript writing and revisions, and provided resources for the project. Krantz contributed to data analyses, writing of the initial draft, and revisions. Madson contributed to data collection, manuscript writing, and revision.

Positionality statement: Lui is an Asian American clinical psychologist with expertise in ethnic minority alcohol use and health disparities. Krantz is a White post-baccalaureate researcher. Madson is a White licensed counseling psychologist with research expertise on alcohol misuse and protective behavioral strategies.

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Abstract

College students—including those of Hispanic backgrounds—are at risk for hazardous drinking. Research has shown robust group differences between Hispanic and White individuals in alcohol use outcomes. The ability to resist alcohol consumption can be leveraged to reduce hazardous drinking; however, little research has examined Hispanic-White differences and whether drinking refusal self-efficacy accounts for group differences in hazardous drinking. Considering Hispanic individuals make up the largest ethnic/racial minority group in the United States, it is important to identify malleable psychological factors that prevent and reduce drinking problems. Hispanic and White college students at two predominantly White institutions (N = 389; 58.6% women, M_{age} = 20.22) completed measures assessing drinking refusal self-efficacy, hazardous drinking, and negative drinking consequences. Hispanic students reported lower levels of hazardous drinking, alcohol-related problems, and drinking refusal self-efficacy than White students. Drinking refusal self-efficacy was found to partially explain Hispanic-White differences in the levels of hazardous drinking and drinking-related problems. Specifically, drinking refusal self-efficacy was associated with alcohol use outcomes only among White and not Hispanic college students. The correspondence between drinking refusal self-efficacy and actual behaviors to turn down drinks, ethnic/racial distinctiveness in ratings of self-efficacy and cultural orientations, and situational contexts that surround drinking should be examined in future research.

Keywords: disparity, drug refusal, harm reduction, Latino/a, protective

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Research has shown Hispanic-White differences in the onset and maintenance of alcohol-related problems in the general United States population (Caetano & Clark, 1998; Grant et al., 2012; Ríos-Bedoya & Freile-Salinas, 2014).[1] Hispanic individuals report disproportionately higher rates of binge drinking; even when controlling for levels of assumption, they experience more negative alcohol-related consequences than their White counterparts (Lui & Zamboanga, 2019; Mulia et al., 2017). Furthermore, Hispanic and other ethnic/racial minority individuals experience greater disease burden of alcohol use disorders than their White peers because of greater exposure to social disadvantages (Mulia, 2009; Mulia et al., 2008). Much of this literature has relied on individuals from the general population; alcohol use outcomes specific to Hispanic young adults attending college remain relatively understudied (DiBello et al., 2016; LaBrie et al., 2012; Venegas et al., 2012). Across segments of the population, college students are particularly at risk for hazardous drinking—including high rates of alcohol consumption and negative drinking-related consequences (Krieger et al., 2018; Lorant et al., 2013; Merrill & Carey, 2016). Permissive attitudes toward alcohol use and perceived college drinking norms have been linked to high-risk drinking situations and make college students vulnerable to hazardous drinking (Borsari & Carey, 2001; Lui, 2019; Osberg & Boyer, 2018).

Hispanic Alcohol Use and Ethnic/Racial Disparities

Although Hispanic individuals are more likely than Whites to abstain from alcohol use, national adult data have indicated high rates of problematic drinking in the Hispanic groups (Caetano, 1988; Caetano et al., 2008; Chartier & Caetano, 2010; Mulia et al., 2017; Mulia et al., 2008). Compared to White youth, Hispanic youth were slightly less likely to continue drinking over time (Malone et al.,

[1] We focus on United States individuals with Spanish-speaking and Latin American heritages, including Mexican, Cuban, and Central American. Relatively more individuals of Mexican American background and residing in Texas prefer the broad ethnic/racial label of "Hispanic" to "Latino/a/x," thus we use "Hispanic" as a term to characterize our sample and this population throughout this manuscript.

2012). Yet, accounting for levels of consumption, Hispanic adults have been shown to experience more drinking-related problems than their White counterparts (Mulia, 2009). Little research has focused on ethnic/racial differences in drinking-related outcomes and determinants among those in college, particularly among Hispanic college students (Edwards et al., 2019). This dearth of studies in Hispanic college student alcohol use and Hispanic-White differences is problematic because patterns in the general population have been shown to be dissimilar among college students (Crowley, 1991). College students on average are at the highest risk for hazardous drinking, relative to other segments of the population (Davoren et al., 2015; Quinn & Fromme, 2011). For example, close to 70% of college students have consumed alcohol in their lifetime and 11% of them report moderate risk in their alcohol consumption (American College Health Association, 2022). Furthermore, existing research with the general population has tended to focus on documenting ethnic/racial differences in drinking patterns. Relatively few studies have emphasized the possible roles of malleable psychological factors in explaining these group differences, and consider distinctive effects of these factors in understudied population (Lui & Zamboanga, 2019). To advance alcohol research and address ethnic/racial disparities in drinking, there is a critical need to move beyond the "black box" model of investigation (Malone et al., 2012). Investigations that illuminate possible factors that explain demographic group differences are much needed.

Some data have suggested that Hispanic college students are more inclined to abstain from alcohol use than their peers from other groups (Straka et al., 2019). Among high school seniors, Hispanic individuals were more likely to report feeling the need to reduce or stop alcohol use, despite lower levels of alcohol consumption than their White peers (Terry-McElrath & Patrick, 2020). In the context of coping motives—a set of reasons that is most closely linked to harmful alcohol use—and social and enhancement motives—the most common reasons for alcohol use among college students

(Lui et al., 2020b; Madson et al., 2015; Martens et al., 2008; Read et al., 2003), greater resilience can reduce alcohol consumption and negative drinking-related consequences (Sanchez et al., 2022). These findings suggest that being resilient and able to resist drinking in high-risk situations may be an important protective factor for alcohol-related problems.

From a health disparity perspective, Hispanic individuals may be exposed to more disadvantages and/or social influences that pose them at disproportionately greater alcohol use disease burden, despite lower frequency and average quantity of consumption than Whites (Chartier & Caetano, 2010; Mulia & Zemore, 2012). From a harm reduction perspective, certain social and cultural factors such as socioeconomic status, migration status, and acculturation may reduce individuals' likelihood of engaging or confidence in drink refusals. Additionally, many Hispanic individuals endorse high levels of collectivism. Being more collectivistic may be linked to lower tendencies to turn down drinks or resist the temptation to engage in alcohol consumption—especially in social contexts. A recent study indicated that drinking to conform to social norms was positively associated with alcohol-related problems among Hispanic college students at the US-Mexico border (Lui et al., 2020b). Overarching social factors are not as susceptible to intervention, whereas drinking refusal self-efficacy is malleable to change. Thus, it is important to examine the possible influence of drinking refusal self-efficacy on alcohol use outcomes. As a malleable factors that can reduce individuals' risks for hazardous drinking (Bravo et al., 2017), addressing group differences in the ability to resist alcohol use has the potential to prevent drinking-related problems among Hispanic college students—and ultimately eliminate this Hispanic-White disparity.

Drinking Refusal Self-Efficacy

Individuals' belief that they can resist the temptation to consume alcohol across settings and situations has been examined as drinking refusal self-efficacy (Young et al., 2006). Drinking refusal

self-efficacy is a domain-specific form of general self-efficacy. In the psychological literature, self-efficacy concerns a set of stable yet plastic beliefs that individuals hold regarding their capability to execute behavior repertoires necessary to manage any anticipated situation (Bandura, 1977). As posited in the social cognitive theory, self-efficacy is fundamental to positive health-related outcomes because it promotes a sense of agency and appraised abilities to control future behaviors (Bandura, 1977). Specific to alcohol use outcomes, being able to refuse alcohol can proximally affect individuals' decision to drink (Baldwin et al., 1993; Conner et al., 1999). Observational research shows that drinking refusal self-efficacy is linked to abstinence from drinking, low intention to consume alcohol, low frequency and quantity of alcohol use, and few negative consequences in some segments of the population (Alexander et al., 2020; Baldwin et al., 1993; Ehret et al., 2013; Hasking & Oei, 2002; Young & Oei, 2000). Drinking refusal self-efficacy also has been shown to be important in promoting the use of protective behavioral strategies against harmful drinking (Miller et al., 2019). Additionally, intervention research shows that drinking refusal self-efficacy can reduce alcohol use at 30-day follow-up measurement occasion in a sample of adolescents of diverse ethnic/racial backgrounds (Alexander et al., 2019). A key limitation in the existing knowledge base is that research has been conducted with predominantly White samples. Although the most commonly used survey used to assess drinking refusal self-efficacy (i.e., Drinking Refusal Self-Efficacy Questionnaire-Revised (DRSEQ-R)) has been validated in diverse samples (AlMarri et al., 2009; Oei & Jardim, 2007; Scully et al., 2018), little is known about the roles of drinking refusal self-efficacy among Hispanic college students and whether it explains Hispanic-White differences in alcohol use.

There are very few studies on drinking refusal self-efficacy with ethnic/racial minority individuals. Some mixed evidence exists concerning the importance of drinking refusal self-efficacy in these communities. For example, African American adult patients with alcohol use disorder were shown

to benefit more from drinking refusal skills training and saw greater reduction in heavy drinking frequency than their non-Hispanic, White counterparts (Witkiewitz et al., 2011). By contrast, Smith et al. (2014) showed that African American and non-Hispanic, White youth did not differ in treatment outcomes following drug refusal training. These differences might attribute to age cohort differences, methodological and statistical decisions, and variable patterns with alcohol and other illicit drugs. Considering that college students are at risk for hazardous alcohol use and negative drinking consequences and the persistent Hispanic-White differences in drinking outcomes, it would be critical to examine the role of drinking refusal self-efficacy in these groups.

Study Hypotheses

Drinking refusal self-efficacy is one psychologically relevant factor that reduces hazardous drinking. Given the dearth of research on drinking refusal self-efficacy in ethnic/racial minority groups, our study was the first to examine the extent to which drinking refusal self-efficacy accounted for Hispanic-White differences in drinking outcomes. We hypothesized that:

H1. There would be Hispanic-White differences in hazardous drinking and drinking-related problems. Relative to Whites, Hispanic individuals would report more drinking-related problems, even after accounting for alcohol consumption.

H2. Hispanics would report lower levels of drinking refusal self-efficacy than Whites.

H3. Relations between ethnic/racial background and alcohol use outcomes would be accounted for by drinking refusal self-efficacy.

Method[2]

Participants and Procedure

Data were collected from 205 Hispanic and 184 White undergraduate students aged 18 years or

[2] Preregistration of study design and analytic strategies was archived in the Open Science Framework repository.

older at two mid-sized, predominantly White universities in the Southwestern and Southeastern United States. Individuals who reported drinking in the past year were eligible to enroll in the study. Our sample (N = 389; 58.6% women, 0.3% transgender/gender nonbinary; M_{age} = 20.22, SD_{age} = 1.98) comprised students across years in college (23.1% freshman, 31.6% sophomore, 26.5% junior, 18.8% senior).[3] Most undergraduate students were not a member of a sorority or fraternity (39.9% Greek affiliated).

As part of larger cross-sectional studies on college student health, participants were recruited via Psychology Subject Pools at both universities, and additionally via student-directed emails from the Office of the Registrar at one university. Individuals who met inclusion criteria provided electronic informed consent and completed survey questionnaires on *Qualtrics*. Participation was voluntary and anonymous. Questionnaires in the larger studies took 40-50 minutes. Participants recruited through the Subject Pool and Registrar received research credits and $20, respectively.

Measures

Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993) is a 10-item measure of past-year hazardous drinking. Three items were used to assess the levels of alcohol consumption (e.g., "How often do you have a drink containing alcohol?"). Seven other items were used to assess the degree of drinking-related problems (e.g., "How often did you find you were not able to stop drinking once you had started?"). Items were rated on a scale from 0 (*never/no*) to 4 (*daily or almost daily/yes, during the last year*). Sum scores indicating consumption and drinking-related problems were computed. AUDIT scores have been shown to be a reliable and valid measure of alcohol use in both White and Hispanic samples (e.g., Frank et al., 2008). Our present data demonstrated

[3] There were no statistically significant differences in age and years in college by universities. There were cross-site differences in the distributions of gender and proportion of students who were affiliated with the Greek system; hence gender and Greek affiliation were considered as covariates in multivariate analyses.

acceptable internal consistency reliability for alcohol consumption (Cronbach's α = .83 and .81) and drinking-related problems (Cronbach's α = .80 and .69) in Hispanic and White groups, respectively.

Drinking Refusal Self-Efficacy Questionnaire-Revised (DRSEQ-R; Oei et al., 2005) is a 19-item abbreviated version of the 31-item Drinking Refusal Self-Efficacy Questionnaire (DRSEQ; Young et al., 1991). Both versions of the instrument assess individuals' self-appraised ability to refuse alcohol consumption across settings (e.g., "When I am upset," "When my friends are drinking"). A single DRSEQ-R score could be used to indicate general drinking refusal self-efficacy (Oei et al., 2005); DRSEQ-R scores have shown to be invariant across gender and ethnic/racial groups including White and African American college students (Scully et al., 2018). Respondents rated the items on a scale from 1 (*I am very sure I would drink*) to 6 (*I am very sure I would not drink*). Our current scores demonstrated excellent internal consistency reliability for Hispanic and White groups (Cronbach's α = .96 and .95, respectively).

Data Analyses

We conducted preliminary data screening and computed descriptive statistics and zero-order correlations among key variables in SPSS v25.[4] We used SPSS to perform independent samples *t*-tests to examine ethnic/racial differences in all key study variables, including hazardous drinking and drinking-related problems, and drinking refusal self-efficacy (H1 and H2). We also conducted a one-way analysis of covariance (ANCOVA) in SPSS to examine ethnic/racial differences in drinking-related problems accounting for alcohol consumption (H1). We performed path analyses testing the indirect associations linking ethnicity/race to drinking-related problems via drinking refusal self-efficacy using Mplus v8.4. Preliminary analysis showed that the residuals of alcohol consumption and drinking-related

[4] We performed data screening in SPSS to identify potential univariate and multivariate outliers using Z-scores and Mahalanobis distance, respectively. We identified 15 cases as univariate outliers and no multivariate outliers. We found no differences in our univariate and multivariate results with and without these outliers; thus, we used all available data in subsequent analyses.

problem scores were nonnormally distributed. Results from Mplus on dispersion parameter and model fit indices including Akaike information criteria (AIC) and Bayesian information criteria (BIC) revealed that negative binomial distribution was a better fit than Poisson distribution for our data on both outcome variables. Particularly, 28.8% of the sample scored a zero on the drinking-related problem variable. Thus, generalized linear models (GLMs) were appropriate to handle the present data. Specifically, a negative binomial path analysis was performed to examine the degree to which variances in alcohol consumption were accounted for by ethnic/racial grouping via drinking refusal self-efficacy and zero-inflated negative binomial path analysis was performed to examine the variances in drinking-related problems were accounted for by these same variables (H3).

Ethnic/Racial group→ drinking refusal self-efficacy→ alcohol use outcome paths were evaluated via Monte Carlo bootstrapped confidence intervals; statistically significant indirect paths would be indicated by 95% confidence intervals that excluded zero. The default model indirect command in Mplus was used to compute the effect size parameters and confidence intervals. Existing research has shown that men drank more and were more likely to experience problems associated with alcohol use than women, and college students affiliated with sorority or fraternity were also more likely to consume more alcohol and experience more negative drinking-related consequences (Barry, 2007; Chauvin, 2012; White, 2020). Further, older college students were shown to engage in more problematic drinking than younger students (e.g., Grucza et al., 2009). Hence, we considered participants' self-reported gender identity (women and men),[5] age, and Greek affiliation as possible covariates in the path models predicting alcohol consumption and drinking-related problems. Finally, because individuals who consume higher levels of alcohol have been found to experience more drinking-related problems

[5] Gender also included transgender and gender nonconforming/fluid; only two research participants indicated that they identified as transgender or gender fluid. Given the small sample size, gender as a covariate included individuals who identified as women or men.

(Hingson et al., 2017; Rehm, 2011), alcohol consumption also was considered as a covariate in the analysis predicting drinking-related problems. Statistically nonsignificant covariates were removed from the final models for the sake of parsimony.

Results

Table 1 summarizes means, standard deviations, and correlations of all variables by ethnic/racial groups. Our participants reported moderate levels of alcohol consumption and low levels of drinking-related problems. We observed statistically significant Hispanic-White differences in alcohol consumption ($t(305) = 9.53$, $p < .001$) and drinking-related problems ($t(387) = 2.92$, $p = .004$). Opposite to our directional hypothesis in H1, Hispanic participants reported lower levels of alcohol consumption ($M = 4.03$, $SD = 1.96$) and drinking-related problems ($M = 3.05$, $SD = 4.03$) than their White peers (consumption: $M = 6.51$, $SD = 2.57$; problems: $M = 4.24$, $SD = 3.96$). Even when controlling for the levels of alcohol consumption, we found Hispanic participants to report fewer drinking-related problems than their White peers, $F(1,304) = 0.66$, $p = .417$. As predicted in H2, Hispanic participants reported lower levels of drinking refusal self-efficacy ($M = 3.56$, $SD = 1.40$) than White participants ($M = 4.38$, $SD = 0.98$), $t(358) = 6.38$, $p < .001$.

As shown in the group-specific zero-order correlations in Table 1, drinking refusal self-efficacy was statistically significantly correlated with alcohol consumption among White participants ($r = -.28$, $p = .004$) but not Hispanic participants ($r = -01$, $p = .938$). These two sets of correlations (two-tailed test) were statistically significantly different, $z = -2.23$, $p = .026$. Similarly, drinking refusal self-efficacy was correlated with drinking-related problems among White participants ($r = -.45$, $p < .001$) but not Hispanic participants ($r = -.05$, $p = .487$), $z = -4.05$, $p < .001$.

We initially included gender, age, and Greek affiliation as covariates in the path analysis regressing alcohol consumption on predictors, and gender, age, Greek affiliation, and consumption as

covariates in the path analysis regressing drinking-related problems on predictors. Initial model predicting alcohol consumption showed that age (B = -0.02, SE = 0.01, p = .124) and Greek affiliation (B = 0.04, SE = 0.05, p = .488) were not robust covariates. Additionally, the initial model predicting drinking-related problems showed that age (B = 0.03, SE = 0.02, p = .228) and gender (B = 0.05, SE = 0.10, p = .643) were not robust covariates. Hence, only statistically significant covariates were retained in the final path model for each outcome variable. Table 2 summarizes results from the final path analysis results concerning alcohol consumption and drinking-related problems.

Alcohol Consumption

In the negative binomial path model, gender was a statistically significant covariate (B = -0.16, SE = 0.05, p = .003). There was a 14% lower incidence rate for the levels of alcohol consumption among women than men. We also observed a statistically significant prediction of alcohol consumption by ethnicity/race (B = -0.47, SE = 0.06, $p < .001$) and drinking refusal self-efficacy (B = -0.05, SE = 0.02, p = 0.39). Consistent with H3, we found a robust indirect association linking ethnicity/race to alcohol consumption by way of drinking refusal self-efficacy (B = 0.04, SE = 0.02). The 95% confidence intervals derived from bias-corrected bootstrapping ranged from 0.00 to 0.07, indicating that ethnic/racial differences in alcohol consumption was partially accounted for by individual differences in drinking refusal self-efficacy.

Drinking-Related Problems

In the final zero-inflated negative binomial path model, we included drinking refusal self-efficacy as a predictor of membership in the zero class of drinking-related problems. This prediction in the count part of the model was not statistically significant. Greek affiliation and levels of alcohol consumption were statistically significant covariates predicting drinking-related problems. There was a 42% greater incidence rate of drinking-related problems among participants who were members of the

Greek system than their non-Greek peers (B = 0.35, SE = 0.11, p = .001). Additionally, for each one unit increase in the level of alcohol consumption, there was a 28% increase in the incidence rate for negative drinking-related consequences (B = 0.24, SE = 0.02, p < .001). Ethnic/Racial grouping accounted for statistically significant proportions of variance in drinking refusal self-efficacy (B = -0.83, SE = 0.13, p < .001). Drinking refusal self-efficacy was robustly linked to drinking-related problems (B = -0.13, SE = 0.05, p = .01) over and above other variables in the path model. The confidence interval estimates for the indirect relation between ethnic/racial group and drinking-related problems did not contain zero (95% CI = 0.02 to 0.20). These data supported H3, indicating that drinking refusal self-efficacy partially accounted for the associations between ethnicity/race and drinking-related problems (B = 0.11, SE = 0.05).

Discussion

This is the first study to examine Hispanic-White ethnic/racial differences in drinking outcomes as they pertained to drinking refusal self-efficacy—a malleable psychological factor that can protect against hazardous drinking. By examining ethnic/racial differences in drinking refusal self-efficacy and alcohol use outcomes, and their associations, the present study can contribute to the development of culturally appropriate knowledge and potential interventions (Marin, 1993). Our results indicated that ethnic/racial disparities in hazardous drinking might be a function of group variabilities in college students' confidence to refuse alcohol use across diverse settings. Prior research based on predominantly White samples has highlighted the importance of self-appraised ability to resist the temptations and turn down offers to drink, and hence clinical significance of refusal skills training. Our research corroborated evidence showing a possible positive role of drinking refusal self-efficacy in reducing alcohol consumption and negative drinking-related consequences among White college students. Yet, the present results involving Hispanic college students also added to this knowledge base and challenged

existing findings in two key ways. First, Hispanic-White differences in alcohol use outcomes were explained partially by group differences in drinking refusal self-efficacy. On average, we found that Hispanic college students were less confident in their ability to refuse alcohol consumption than their White counterparts. Second, drinking refusal self-efficacy did not seem to be closely linked to alcohol use outcomes among Hispanic college students; thus, these results caution generalizing prior findings to the Hispanic community without empirical examinations and cultural considerations.

Hispanic-White Differences in Drinking Outcomes

Contrary to existing findings regarding ethnic/racial disparities in alcohol use outcomes, Hispanic college students in our sample reported lower levels of alcohol consumption and drinking-related problems than their White peers. The present results may be a function of age cohort effects and social contexts of drinking. First, many previous alcohol disparities research has focused on adults in the broader community (e.g., Grant et al., 2004; Villalobos & Bridges, 2017) whereas our sample was limited to college students. Research has shown ethnic/racial minority groups to be at lower risks than Whites for heavy drinking before the age of 32, and that White individuals generally report higher levels of alcohol consumption during adolescence and young adulthood than people of other ethnic/racial backgrounds (Chartier & Caetano, 2010; Muthén & Muthén, 2000). Thus, greater alcohol consumption and drinking-related problems among Hispanics than Whites may not manifest during college years. Second, prior data have indicated that college students of color attending predominantly White institutions may engage in higher levels of alcohol consumption and engage in more hazardous drinking behaviors than their same-ethnic peers in minority serving institutions (Barry et al., 2016). Whereas this position has not been well supported among Hispanic students, data have shown that associations between alcohol use behaviors and descriptive drinking norms and gender roles were less robust among those in Hispanic-serving institutions than their counterparts attending predominantly White institutions

(Vaughan et al., 2015; Vaughan et al., 2014). Hence, the social contexts in which college students consume alcohol should be examined closely in future research to replicate our observations and explore reasons for lower levels of problematic drinking among Hispanic students than White students.

Drinking Refusal Self-Efficacy among Hispanic College Students

Little research has focused on understanding the role of drinking refusal self-efficacy among Hispanic individuals. In one study, researchers compared binge drinking behaviors and drinking refusal self-efficacy between Hispanic students and students of all other backgrounds and found no reliable group differences (Morales et al., 2021). The present observed Hispanic-White differences in drinking refusal self-efficacy appeared to be contrary to previous evidence showing greater likelihood of extreme responses among Hispanics and a tendency to favor open emotional expressions in the Latin culture (Marin et al., 1992; Soto et al., 2005). Additionally, there was no evidence of a restriction of range issue that would have explained the null correlations between drinking refusal self-efficacy and drinking outcomes in the Hispanic subsample. Several interpretations should be considered. First, Hispanic community has been characterized as more collectivistic than the White/European American community (Chang, 2015; Oyserman et al., 2002). Considering positive family relationships being one of the most important areas that promotes collectivism, familism has been shown to be associated with lower levels of alcohol use among Hispanic college students (DiBello et al., 2016). To maintain interpersonal harmony, Hispanic college students also may feel compelled to drink across most social situations when alcohol is available or offered, and thus appraise a lower degree of confidence in their ability to resist drinking. We are unable to test this hypothesis in the present study; future research assessing individual differences in acculturation orientations and collectivistic tendencies would help deepen scientific understanding of the role of drinking refusal self-efficacy in alcohol use outcomes among Hispanic individuals. Second, other deterrents against harmful alcohol use (e.g., parental monitoring, public

shame, religiosity), some of which distinctive to Hispanic contexts, may explain ethnic/racial differences in drinking outcomes (Jankowski et al., 2018; Lui et al., 2020a; Mills et al., 2020; Pokhrel et al., 2008; Shih et al., 2012). These deterrents may be effective in reducing risks associated with hazardous drinking among Hispanic individuals regardless of whether they are confident in their own ability to resist drinking. Third, college stress and minority-specific stress (e.g., acculturation-related challenges, racism and discrimination experiences) may potentiate coping-related alcohol use, regardless of Hispanic students' self-efficacy in refusing to drink, thus obscuring the relation between drinking refusal self-efficacy and alcohol use outcomes in the Hispanic sample.

Limitations and Future Research Directions

The present findings should be considered in the context of several limitations. First, our results may be attributed to group differences in response styles, particularly in rating their levels of self-efficacy in refusing alcohol consumption. Although little work has focused on response styles among Hispanic individuals specifically, individuals from collectivistic cultures (e.g., Hispanic) may be less likely to use the extreme responses on survey questionnaires than individuals from individualistic cultures (Uskul et al., 2010). Second, we used cross-sectional data in the present study. It is unclear how individuals may change in their drinking refusal self-efficacy and alcohol use patterns over the course of their college years, and whether our present findings would be stable over time. Third, these data were collected from two predominantly White, residential universities in the US South. Findings likely do not generalize to students attending other types of colleges (e.g., commuter, Hispanic-serving) and to individuals from other segments of the population. Fourth, we did not assess the possible influence of college students' socioeconomic status. Socioeconomic status has been shown to correlate with drinking outcomes, and this association is further moderated by demographic factors including ethnicity/race (Collins, 2016). Given the complexity in measuring socioeconomic status among college students—

many of whom have not attained stable income and occupation (Rubin et al., 2014), future research should consider students' self-definition of their social class and their ethnic/racial background as they pertain to their alcohol use outcomes. Fifth, we did not assess and explore the explanatory effects of sociocultural factors (e.g., acculturation-related factors, stress associated with racism and discrimination, group-specific values around drinking) (Cano, 2016; Lui & Zamboanga, 2018; Schwartz et al., 2014; Shih et al., 2012; Unger et al., 2014). Given our observed group differences in drinking outcomes and drinking refusal self-efficacy, and that drinking refusal self-efficacy only partially explained ethnic/racial group differences in alcohol use outcomes, other demographic, individual difference, and sociocultural factors should be considered to further interrogate reasons for alcohol disparities. For example, acculturation and enculturation levels and nativity status might moderate the links between drinking refusal self-efficacy and alcohol use outcomes among Hispanics. It also is possible that descriptive and injunctive drinking norms, drinking motives, and social contexts in which alcohol consumption occurs (e.g., types of institution, with whom Hispanic and White college students drink) affect college students' intention to resist drinking and confidence in doing so. Finally, general and group-specific strategies that protect against harmful alcohol use likely interact with drinking refusal self-efficacy in predicting drinking-related problems.

Conclusion

This was one of the first studies that examined drinking refusal self-efficacy as a malleable, psychological factor that accounted for Hispanic-White differences in alcohol use outcomes. We observed that ethnic/racial differences were partially accounted for by drinking refusal self-efficacy. Although data with White college students supported prior research that higher levels of drinking refusal self-efficacy were linked to lower levels of alcohol consumption and negative drinking-related consequences, this appraised ability to refuse alcohol use across setting was unrelated to drinking

outcomes among Hispanic college students. As scientific evidence grows regarding cultural differences in the possible effects of drinking refusal self-efficacy and other related harm reduction behavioral strategies, the field will benefit from culturally tailored interventions to reduce problematic drinking across diverse ethnic/racial groups.

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Table 1

Means, Standard Deviations, and Correlations among All Study Variables by Ethnic/Racial Grouping

Study Variable	*M* (*SD*)		*t*(*df*)	*F*(*df*)[a]	1.	2.
	White	Hispanic				
1. Alcohol consumption	6.51 (2.57)	4.03 (1.96)	9.53(305)**	--	--	
2. Drinking-related problems	4.24 (3.96)	3.05 (4.03)	2.92(387)*	0.66(1,304)	.56** / .43**	--
3. Drinking refusal self-efficacy	4.38 (0.98)	3.56 (1.40)	6.38(358)**	--	**-.28** / -.01**	**-.45** / -.05**

Note. Correlations are shown in the order of White / Hispanic. $N = 184$ for Whites, and $N = 205$ for Hispanics. Correlations that are statistically significantly different between Hispanic and White subsamples are in bold. Missingness was handled by listwise deletions.

[a] Analysis of covariance includes alcohol consumption as a covariate in examining ethnic/racial differences in drinking-related problems.

*$p < .005$, **$p < .001$

Table 2

Summary of Final Path Models Regressing Alcohol Consumption and Drinking-Related Problems on Ethnicity/Race, Drinking Refusal Self-Efficacy, and Covariates

Predictor	*B*(*SE*)	95% CI	exp(*B*)	*p*
Alcohol Consumption (*N* = 387)[a]				
Gender (covariate) → Consumption	-0.16 (0.05)	[-0.26, -0.06]	0.86	.003
Ethnicity/Race → Drinking refusal self-efficacy (*a* path)	-0.78 (0.13)	[-1.03, -0.53]	0.46	< .001
Drinking refusal self-efficacy → Consumption (*b* path)	-0.05 (0.02)	[-0.09, -0.00]	0.95	.039
Ethnicity/Race → Consumption (*c'* path)	-0.47 (0.06)	[-0.58, -0.36]	0.63	< .001
Ethnicity/Race → Drinking refusal self-efficacy → Consumption (*a* x *b*)	0.04 (0.02)	[0.00, 0.07]	--	--
Drinking-Related Problems (*N* = 388)[b]				
Count Model				
Drinking refusal self-efficacy	1.22 (1.34)	[-1.40, 3.84]	--	.361
Logit Model				
Greek affiliation (covariate) → Problems	-0.35 (0.11)	[0.15, 0.56]	1.42	.001
Consumption (covariate) → Problems	0.24 (0.02)	[0.20, 0.28]	1.28	< .001
Ethnicity/Race → Drinking refusal self-efficacy (*a* path)	-0.83 (0.13)	[-1.08, -0.58]	0.44	< .001
Drinking refusal self-efficacy → Problems (*b* path)	-0.13 (0.05)	[-0.23, -0.03]	0.88	.010
Ethnicity/Race → Problems (*c'* path)	0.23 (0.11)	[0.01, 0.46]	1.26	.043
Ethnicity/Race → Drinking refusal self-efficacy → Problems (*a* x *b*)	0.11 (0.05)	[0.02, 0.20]	--	--

Note. Gender: 0 = man, 1 = woman (data from two individuals who reported transgender or non-binary gender identity were not included). Ethnicity/Race: 0 = White/Euro American, 1 = Hispanic. Greek affiliation: 0 = non-Greek, 1 = Greek affiliated. Results on bias-corrected bootstrapping the confidence intervals showed statistically significant indirect paths, ethnicity/race → drinking refusal self-efficacy → alcohol consumption, and ethnicity/race → drinking refusal self-efficacy → drinking-related problems.

[a] Initial negative binomial path model predicting alcohol consumption contains Greek affiliation and age as additional covariates; based on the principle of parsimony, these statistically nonsignificant covariates are removed from the final model.

[b] Initial zero-inflated negative binomial path model predicting drinking-related problems contains gender and age as additional covariates; based on the principle of parsimony, these statistically nonsignificant covariates are removed from the final model.