"Mixed" Drinking Motivations: A Comparison of Majority, Multiracial, and Minority College Students

Brenda C. Straka[1] ⬤, Sarah E. Gaither[1,2], Shawn K. Acheson[3], and H. S. Swartzwelder[1,3]

Abstract

Social exclusion is associated with substance use, but the specific link between majority and minority racial group membership and substance use is unknown. We examined how social exclusion among racial majority (White), Multiracial, and racial minority (Native American, Latino, Asian, and Black) college students relates to self-reported alcohol use and motivations. Using the AlcoholEdu for College™ survey, Study 1a reports five factors related to motives for initiating or inhibiting alcohol use. Study 1b analyzes majority, Multiracial, and minority college students' comparative endorsement of these motivations. Study 2 compares these factors with established belonging scales using a separate undergraduate sample. White, Multiracial, Native American, and Latino students displayed the highest proportion of problematic alcohol use. White students endorsed belonging-based drinking motivations, while Multiracial and Asian students endorsed motivations similar to both majority and minority groups. Native American, Latino, and Black students endorsed abstaining motivations more than other groups.

Keywords

U.S. college students drink alcohol at clinically high levels (e.g., Substance Abuse and Mental Health Services Administration [SAMHSA], 2014; White & Swartzwelder, 2009) that result in negative alcohol-related consequences (ARCs) including sexual assault and academic failure. However, the influence of student-level characteristics such as racial group membership and the potentially different drinking motivations is not well understood (e.g., Chartier & Caetano, 2010; Terry-McElrath & Patrick, 2018).

Extending this work on drinking motivations to specific minority groups is important since people from stigmatized backgrounds who face more discrimination often turn to substances like alcohol for coping (Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004; Keyes, Hatzenbuehler, & Hasin, 2011). Within collegiate environments, minority groups report experiencing more discrimination and lower levels of belonging compared to majority groups (Johnson et al., 2007; Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003), suggesting different motivations for alcohol use based on racial group membership.

However, despite discrimination rate differences, the highest rates of alcohol use among adolescents and young adults have been observed for White, Multiracial (those who belong to more than one racial group), Native American, and Latino individuals (e.g., Chavez & Sanchez, 2010; Chen,

Balan, & Price, 2012; Goings, Butler-Bente, McGovern, & Howard, 2016; O'Malley & Johnston, 2002; Terry-McElrath & Patrick, 2018). Additionally, other work demonstrates that 4-year college attendance is positively associated with heavy alcohol use for White students but inversely related for both Black and Asian students (Paschall, Bersamin, & Flewelling, 2005). Thus, as social experiences such as party-centered lifestyles and specific student group memberships (i.e., fraternities) are also known as strong predictors of college drinking (Wechsler, Dowdall, Davenport, & Castillo, 1995), it remains unclear how racial membership and social motivations may dually affect motivations for alcohol consumption during college.

[1] Department of Psychology & Neuroscience, Duke University, Durham, NC, USA
[2] Samuel DuBois Cook Center on Social Equity, Center on Health and Society, Duke University, Durham, NC, USA
[3] Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC, USA

Corresponding Author:
Brenda Straka, Department of Psychology & Neuroscience, Duke University, 417 Chapel Dr., Box 90086, Durham, NC 27708, USA.
Email: brenda.straka@duke.edu

Past work has focused more on a student's likelihood of drinking rather than pinpointing the specific motivations that may differentially predict alcohol use in college. The college transition period is associated with increases in stress and mental health symptoms, in addition to increases in alcohol use and ARCs (e.g., Cooke, Bewick, Barkham, Bradley, & Audin, 2006; Gall, Evans, & Bellerose, 2000; Lovecchio, Wyatt, & DeJong, 2010). This is likely due to experiencing more threats to one's social belonging, which represents a fundamental human need (Baumeister & Leary, 1995). Importantly, exclusion is not only a painful experience, but it also leads to higher rates of substance abuse (Gibbons et al., 2004). Knowing racial group membership is directly associated with varying rates of social exclusion (Mulia, Ye, Zemore, & Greenfield, 2008), we investigate social concerns as a potential additional pathway that may be differentially related to alcohol use for monoracial majority, Multiracial, and monoracial minority college students. These pathways linking belonging and social exclusion with drinking behaviors have yet to be broadly tested due to the need of large sample sizes (Wechsler et al., 1995). However, the AlcoholEdu survey, including data from thousands of college students, allows us to assess underrepresented groups.

Moreover, this data set also provides a unique opportunity to add to the limited health literature surrounding Multiracial populations (Colby & Ortman, 2015; Jones & Bullock, 2012). Multiracial people often face higher levels of social exclusion compared to their monoracial minority peers (e.g., Sanchez & Bonam, 2009; Shih & Sanchez, 2005) which might predict a unique socially motivated pathway for alcohol use in line with past work. Similarly, Native Americans also report high rates of discrimination as the most underrepresented minority group in the United States (Hurtado & Ruiz, 2012; Whitbeck, Chen, Hoyt, & Adams, 2004) and have historically been a group with high rates of alcohol abuse (e.g., Spear, Longshore, McCaffrey, & Ellickson, 2005; Szlemko, Wood, & Thurman, 2006). This suggests that both personal and past experiences with alcohol may be more strongly associated with alcohol use for those populations.

In contrast, White individuals report the highest inclusion levels due to being majority and high status group members (Johnson et al., 2007; Martin, Trego, & Nakayama, 2010; Reid & Radhakrishnan, 2003; Swim et al., 2003). Thus, we would predict external social pressures, such as fitting in with one's set of friends, to more strongly motivate drinking for this racial group. Based on limited past work, we would expect Black and Asian students to show lower drinking rates compared to White, Multiracial, Native American, and Latino students but also predict that variations in social belonging could be a factor for these racial minority groups as well.

Current Studies

Three studies aim to pinpoint some psychological motivations for alcohol use for majority and minority students. Study 1a explored the latent factors underlying the motivational items included in the AlcoholEdu survey. Study 1b compared White, Multiracial, Native American, Latino, Asian, and Black students from the AlcoholEdu data set on their respective drinking motivations. Study 2 finally examined the relationship between these identified factors and social belonging with a subsequently collected diverse sample of undergraduate students.

Study 1a—Factor Analysis for Drinking Motivations

Since the AlcoholEdu items assessing drinking motivations are not from a validated measure (e.g., Cooper, 1994), Study 1a explores the items for classifying psychological constructs. Analyses were completed using SPSS 26 (IBM Corp., Armonk, NY).

Participants

All data came from AlcoholEdu for College, an interactive web-based alcohol-prevention program for college students (e.g., Lovecchio et al., 2010; Wyatt, Dejong, & Dixon, 2013). In previous years of the survey, the racial demographic options were limited (e.g., no "Biracial/Multiracial" or "select all that apply" option). However, 2016–2017 marked the first time that AlcoholEdu permitted students to select more than one race. The options presented were *American Indian or Alaskan Native, Asian, Black or African American, Hispanic or Latino/a, Native Hawaiian or Pacific Islander, White/Caucasian, Not Listed, and Other* (free-response).

All groups were first identified through automated coding of the initial demographic racial endorsement. Next, free response entries were sorted using the online program Open-Refine, which identified additional monoracial and Multiracial individuals. Responses that could not be clearly classified as a race (e.g., "American," "Christian," "tan") were excluded. Responses that reflected unreliable respondents were also excluded (see Supplemental Material). Considering typical neurological development and previous work using this data set, all students over 24 years were excluded (Giedd et al., 1999; Gogtay et al., 2004; Tupler et al., 2017).

After these exclusions, 410,079 first-year undergraduate students (Mode$_{age}$ = 18) from 421 public and private universities representing 47 U.S. states were included. Of participating schools, 78.9% of students completed the survey before they matriculated on campus for the fall 2016 semester. This final sample included 252,356 White, 34,574 Multiracial, 2,402 Native American, 33,648 Hispanic/Latino, 44,646 Asian, and 36,056 Black students (Mode$_{ages}$ = 18; Table 1). Of the Multiracial students, 80.8% were part-White (one of their racial identities was White), 18% were multi-minority (none of their racial identities were White), and 1.2% were undetermined (only specified multiracial generally).

Table 1. Race and Gender Demographics of AlcoholEdu Data Set.

	Racial Groups					
	White	Native	Asian	Black	Latino	Multiracial
Gender						
n	252,356	2,402	44,646	36,056	33,648	34,574
% Female	54.50	46.42	51.61	60.25	58.58	55.51
% Male	44.11	46.63	47.09	38.47	40.19	42.08
% Other	1.39	6.95	1.29	1.28	1.23	2.41

Note. Racial breakdown by gender following exclusion criteria. "Other" category representative of responses of transgender, queer-gender, gender not listed, or prefer not to answer.

Motivations for Drinking Versus Abstaining

Students' drinking motivations were assessed by the following question and 12 options: *How important is each of the following reasons for drinking alcoholic beverages?* (e.g., To celebrate, To feel happy). Their motivations for abstaining from drinking were assessed with the following question and 24 options: *When you choose not to drink, how important are the following reasons?* (e.g., Drinking is against my personal values). All options were rated on a 7-point Likert-type scale (7 = *very important*).

Method and Results

To identify the main motivational factors for drinking and abstaining behaviors, the items were combined (abstaining items reverse scored), and an EFA (Exploratory Factor Analysis) was used as a data reduction strategy. A principle axis factor extraction using an oblique rotation indicated that five factors accounted for 52.52% of the variance in these Drinking Motivation items (see Supplemental Material for a full explanation of the EFA). Of the five identified factors, two factors regarding motivations to drink and three factors regarding motivations to abstain emerged. For purposes of clarity, these factors are presented in separate tables though they were derived from a single EFA. No items between drinking and abstaining motivations loaded on the same factors.

Item content, factor loadings, and reliability estimates are provided in Tables 2 and 3. The identified factors were labeled based on observed similarity to items from Cooper's (1994) drinking motivations: (1) Internal Coping drinking motivations; (2) External Conformity drinking motivations; (3) Internal Conformity abstaining motivations; (4) Internal Past abstaining motivations; and (5) External Contextual abstaining motivations.

Discussion

An EFA of the motivational items from the AlcoholEdu survey found five latent factors for drinking motivations. Two latent factors appear related to increased alcohol use—Internal Coping motivation items relate to alleviation of negative mood and External Conformity motivation items involve elevated mood or social rewards. Additionally, three latent factors appear

Table 2. AlcoholEdu Drinking Motivations.

Drinking Motivation Items	Factor Loading		
How Important to You Is Each of the Following Reasons for Drinking Alcoholic Beverages?	Internal Coping	External Conformity	Communality
	(α = .87)	(α = .78)	Initial
Feel more attractive	**0.91**		.73
Feel more confident or sure of yourself	**0.89**		.74
Feel comfortable pursing an opportunity to have sex	**0.72**		.51
To decrease inhibitions	**0.72**		.51
Feel happy	**0.71**		.65
To relieve stress	**0.65**		.51
Feel connected with people around you	**0.52**		.58
To experiment	**0.40**		.34
To have a good time with your friends		**0.86**	.80
To celebrate		**0.85**	.72
To get drunk		**0.48**	.50
Because you like the taste	—	—	—
Eigenvalues	5.35	1.08	
% of Total variance	15.74	3.16	

Note. Bolded items indicate the primary factor loading. Dashes indicate that this item did not load on any of the identified factors and was thus excluded from the final analysis. Within the total EFA, Internal Coping motivations was the second factor to resolve and External Conformity motivations was the fifth factor to resolve.

related to abstaining motivations—Internal Conformity motivations relating to internalized social concerns, Internal Past motivations regarding previous history with alcohol use, and External Contextual motivations about temporal concerns (Cooper, 1994; Smith, Abbey, & Scott, 1993).

Study 1b—Racial Group Comparisons

Knowing the AlcoholEdu-specific drinking motivation items (Study 1a), we next explored potential differences in drinking motivations between racial groups. First, we report drinking behaviors by racial group and then we compare racial group endorsement of motivations for drinking and abstaining.

Table 3. AlcoholEdu Abstaining Motivations.

Abstaining Motivation Items	Factor Loadings			
	Internal Conformity	Internal Past	External Contextual	Communality
When You Chose *Not* to Drink, How Important Are the Following Reasons?	($\alpha = .90$)	($\alpha = .75$)	($\alpha = .76$)	Initial
Drinking is against my personal values	**0.88**			.64
Drinking conflicts with my religious beliefs	**0.81**			.61
I'm not old enough to drink legally	**0.77**			.49
I don't like being around others who are drinking	**0.62**			.54
I don't like the taste	**0.59**			.34
People I care about would disapprove	**0.57**			.53
My friends don't drink	**0.49**			.34
I don't want the image of a "drinker"	**0.48**			.52
I want to fit in with a group I like	**0.47**			.36
I don't like the way I act when drinking	**0.43**			.52
I am worried about being caught by authorities	**0.42**			.45
I am worried about the negative effects on my health	**0.36**			.55
I've had problems with alcohol use in the past		**0.86**		.66
I am not able to drink due to a medical condition		**0.79**		.57
I've decided to cut down		**0.70**		.55
Drinking interferes with my athletic activities		**0.61**		.42
People in my family have had alcohol problems		**0.56**		.39
I have other things to do			**0.73**	.62
I don't want to spend the money			**0.72**	.55
I'm going to drive later			**0.64**	.34
I don't have to drink to have a good time			**0.54**	.46
I don't want to lose control			**0.44**	.54
Drinking interferes with my school work	—	—	—	—
Alcohol is fattening	—	—	—	—
Eigenvalues	8.01	2.00	1.42	
% of Total variance	23.55	5.89	4.18	

Note. Bolded items indicate the primary factor loading. Dashes indicate that this item did not load on any of the identified factors and was thus excluded from the final analysis. Internal Conformity was the first factor to resolve out of the five total factors. Internal Past was the third, and External Contextual was the fourth.

Participants

The same sample from Study 1a is used here.

Measures

Drinker Categories

To assess alcohol frequency and quantity, AlcoholEdu participants self-reported the following: consumption during past year (yes/no), during past 2 weeks (yes/no), and number of daily drinks consumed during the preceding 2 weeks. Based on these responses, students were categorized into five categories: abstainer, nondrinker, moderate drinker, heavy episodic drinker, and problematic drinker (see Supplemental Material for definitions).

Motivations for Drinking and Abstaining

Composite scores for the motivation factors identified in Study 1a were calculated (see Tables 2 and 3). A one-way multivariate analysis of variance was performed to assess differences between groups: (i) White, (ii) Multiracial, (iii) Native American, (iv) Latino, (v) Asian, and (vi) Black on the following dependent variables of motivations: (i) Internal Coping, (ii) External Conformity, (iii) Internal Conformity, (iv) Internal Past, and (v) External Contextual.

Results

Comparison of Drinker Categories by Racial Group

White, Multiracial, Native American, and Latino students in this sample reported the highest rates of heavy and problematic drinking compared to Black and Asian students, χ^2 (25, $N = 403,682$) $= 206,442.797$, $p < .001$ (Figure 1; see Supplemental Material for details).

Comparison of Racial Groups on Drinking and Abstaining Motivations

Levene's F test revealed that the assumption of homogeneity of variance was not met for each of the motivation variables (see Supplemental Material for full details). Across all five motivation types, participant race had a significant effect on the rating of importance toward both drinking and abstaining
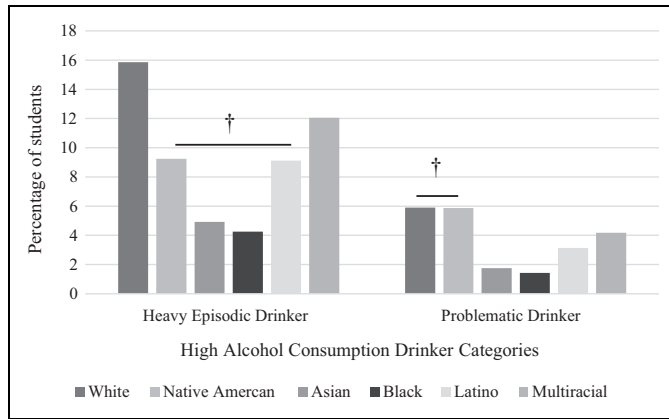
Figure 1. AlcoholEdu high-frequency drinker categories by racial group. Figure shows percentages of racial group members that self-report drinking behaviors categorized as "heavy episodic drinker" (i.e., 4–7 drinks for women, 5–9 more for men on a given day over the last 2 weeks) or "problematic drinker" (i.e., 8 or more drinks for women, 10 or more drinks for men on a given day over the last 2 weeks). $^{\dagger}p >$ .05. All other between-group differences are significant ($p < .05$, two-tailed).

motivations, $\lambda_{\text{Roy's}} = .034$, $F(5, 237213) = 1,616.61$, $p < .001$, $\eta^2 = .03$. Moreover, all univariate analyses revealed significant effects.

There was a significant main effect of racial group on drinking motivations of Internal Coping, $F(5, 237213) = 521.51$, $p < .001$, $\eta^2 = .01$. Games–Howell post hoc analyses were performed to examine individual mean difference comparisons across groups. All post hoc mean comparisons were statistically significant (all ps < .001) except for the difference between Multiracial and Native American students ($p = .328$) and Native American and Latino students ($p = .106$). Compared to other racial groups, Asian students showed the strongest endorsement for Internal Coping motivations of drinking ($M_{\text{Grand}} = 2.74$, $M_{\text{Asaian}} = 2.97$, $SD = 1.28$, all ps

<.001). Following this group, White students were the second highest in endorsement of this motivation ($M_{\text{White}} = 2.89$, $SD = 1.27$, ps < .001), with Black students ($M_{\text{Black}} = 2.43$, $SD = 1.26$) showing the lowest endorsement of this drinking motivation (ps <.001; Table 4; see Supplemental Material for effect sizes and confidence intervals [CIs] of all post hoc test comparisons).

There was a significant main effect of racial group on External Conformity, $F(5, 237,213) = 521.51$, $p < .001$, $\eta^2 = .02$. All Games–Howell post hoc mean comparisons were statistically significant (all ps < .004) except for the difference between Latino and Native American students ($p = 1.00$). Results revealed that White students ($M_{\text{White}} = 4.41$, $SD = 1.45$) endorsed External Conformity motivation for drinking significantly more than other racial groups ($M_{\text{Grand}} = 4.03$, all ps < .001). Subsequently, Multiracial students were the second strongest endorsers of this drinking motivation ($M_{\text{Multiracial}} = 4.21$, $SD = 1.53$, all ps < .001), followed by Asian students ($M_{\text{Asian}} = 4.13$, $SD = 1.43$, all ps <.001). All other racial groups were significantly lower than White, Multiracial, and Asian students, and below the grand mean, with Black students endorsing this motivation the least (all ps < .004; see Table 4).

There was also a significant main effect of racial group on Internal Conformity abstaining motivations, $F(5, 237213) = 792.239$, $p < .001$, $\eta^2 = .03$. All Games–Howell post hoc mean comparisons were statistically significant (all ps < .003) except for the difference between Latino and Native American students ($p = .44$) and Native American and Multiracial students ($p = .14$). Comparatively, Asian students ($M_{\text{Asian}} = 3.28$, $SD = 1.25$) showed the strongest endorsement of Internal Conformity motivations ($M_{\text{Grand}} = 2.97$) to abstain from alcohol use (ps <.001), followed by Black students ($M_{\text{Black}} = 3.05$, $SD = 1.34$, all ps < .02). All other racial groups were significantly lower than Asian and Black students, and White students rated this abstaining motivation the lowest ($M_{\text{White}} = 2.76$, $SD = 1.20$, all ps <.003; see Table 5).

Table 4. AlcoholEdu Drinking Motivations by Racial Group.

Motivation (M_{Grand})	Racial Group	Mean	SD	Mean Differences (SE) 1	2	3	4	5
Internal Coping (2.73)	1. White	2.89	1.27					
	2. Native	2.72	1.46	.17*** (.04)				
	3. Asian	2.97	1.27	−.08*** (.01)	−.25*** (.04)			
	4. Black	2.44	1.26	.46*** (.01)	.29*** (.04)	.54*** (.01)		
	5. Latino	2.62	1.25	.27*** (.01)	.10 (.04)	.35*** (.01)	−.18** (.01)	
	6. Multi	2.80	1.30	.09*** (.01)	−.08 (.04)	.17*** (.01)	−.37** (.01)	−.18*** (.01)
External Conformity (4.01)	1. White	4.41	1.45					
	2. Native	3.86	1.77	.56*** (.05)				
	3. Asian	4.13	1.43	.29*** (.01)	−.27*** (.05)			
	4. Black	3.68	1.61	.75*** (.01)	.18** (.05)	.45*** (.02)		
	5. Latino	3.87	1.53	.55*** (.01)	−.01 (.05)	.26*** (.02)	−.20*** (.02)	
	6. Multi	4.21	1.53	.21*** (.01)	−.35*** (.05)	−.08*** (.01)	−.53*** (.02)	−.34*** (.02)

Note. Drinking Motivation (Internal Coping and External Conformity) by Racial Groups. Mean differences between each racial group are shown. *p < .05. *p < .01. ***p < .001. Standard error in parenthesis.

Table 5. AlcoholEdu Abstaining Motivations.

Motivations (M_{Grand})	Racial Group	Mean	SD	Mean Differences (SE)				
				1	2	3	4	5
Internal Conformity (2.97)	1. White	2.78	1.20					
	2. Native	2.91	1.53	−.15** (.04)				
	3. Asian	3.28	1.25	−.53*** (.01)	−.37*** (.04)			
	4. Black	3.05	1.34	−.29*** (.01)	−.14* (.04)	.24*** (.01)		
	5. Latino	2.99	1.27	−.23*** (.01)	−.08 (.04)	.30*** (.01)	.06** (.01)	
	6. Multi	2.81	1.22	−.05*** (.01)	.10 (.04)	.48*** (.01)	.24*** (.01)	.18*** (.01)
Internal Past (2.38)	1. White	2.16	1.21					
	2. Native	2.59	1.57	−.44*** (.04)				
	3. Asian	2.39	1.44	−.23*** (.01)	.20*** (.04)			
	4. Black	2.45	1.48	−.30*** (.01)	.14* (.04)	−.07*** (.02)		
	5. Latino	2.44	1.44	−.28*** (.01)	.16** (.04)	−.05* (.02)	.02 (.02)	
	6. Multi	2.23	1.29	−.07*** (.01)	.36*** (.04)	.16*** (.01)	.23*** (.02)	.20*** (.01)
External Contextual (4.60)	1. White	4.62	1.44					
	2. Native	3.96	1.88	.65*** (.05)				
	3. Asian	4.81	1.43	−.20*** (.01)	−.85*** (.05)			
	4. Black	4.68	1.66	−.07*** (.01)	−.72*** (.05)	.13*** (.02)		
	5. Latino	4.81	1.53	−.19*** (.01)	−.84*** (.05)	.01 (.02)	−.12*** (.02)	
	6. Multi	4.70	1.48	−.09*** (.01)	−.74*** (.05)	.11*** (.01)	−.02 (.02)	.10*** (.02)

Note. Abstaining motivations (Internal Conformity, Internal Past, and External Contextual) by racial groups. Mean differences between each racial group are shown. *$p < .05$. *$p < .01$. ***$p < .001$. Standard error in parenthesis.

Additionally, there was a significant main effect of racial group on Internal Past abstaining motivations $F(5, 237213) = 372.12$, $p < .001$, $\eta^2 = .01$. All Games–Howell post hoc mean comparisons were statistically significant (all $ps < .04$) except for the difference between Black and Latino students ($p = .77$). Native American students ($M_{NativeAmerican} = 2.59$, $SD = 1.57$) endorsed Internal Past motivations ($M_{Grand} = 2.38$) more than any other racial group (all $ps < .03$). Black ($M_{Black} = 2.46$, $SD = 1.48$) and Latino students ($M_{Latino} = 2.44$, $SD = 1.44$) were the second highest endorsers of this motivation type (all $ps < .04$). White students endorsed Internal Past abstaining motivations the least ($M_{White} = 2.16$, $SD = 1.21$, $ps < .001$; see Table 5).

Finally, there was also a main effect of racial group on External Context abstaining motivations $F(5, 237213) = 173.45$, $p < .001$, $\eta^2 = .004$. All Games–Howell post hoc mean comparisons were statistically significant (all $ps < .001$) except for the difference between Latino ($p = 1.00$) and Black and Multiracial students ($p = .78$). Asian ($M_{Asian} = 4.81$, $SD = 1.43$) and Latino students ($M_{Latino} = 4.81$, $SD = 1.53$) were the strongest endorsers of this abstaining motivation above all other racial groups ($M_{Grand} = 4.60$, all $ps < .001$). Native American students endorsed this motivation the least ($M_{NativeAmerican} = 3.96$, $SD = 1.88$, all p's $< .001$; see Table 5).

Discussion

In line with previous research, White, Multiracial, Native American, and Latino students self-report the highest frequency of problematic drinking behaviors. When comparing across racial groups, both types of drinking motivations (Internal Coping and External Conformity) were highly endorsed by White students. In particular, White, followed by Multiracial and Asian students, endorsed External Conformity motivations related to eliciting positive social rewards more than other groups. And although Asian students did not report high frequencies of problematic drinking, they did report being motivated by Internal Coping reasons related to regulating negative affect, more than any other group. However, other minority groups (Native American, Latino, and Black) did not endorse either type of drinking motivation as strongly.

Asian students also highly endorsed some motivations for abstaining (Internal Conformity and External Contextual) along with other minority groups. In particular, Native American, followed by Black and Latino, students endorsed Internal Past abstaining motivations more than other groups. This may be reflective of previous problematic drinking behaviors among these two groups, and levels of belonging may also still be a factor.

Study 2—Motivations and Belonging

We next explored the proposed link between alcohol use and belonging levels using a separate sample of undergraduates to test whether levels of belonging are associated with the identified factors from Study 1a.

Participants

A power analysis indicated that 109 participants would be sufficient to observe a significant bivariate correlation at 90%

power with a medium effect size ($r = .3$, two-tailed $\alpha = .05$; Faul, Erdfelder, Buchner, & Lang, 2009). In order to recruit a representationally diverse sample (comparable to the AlcoholEdu data set), 614 undergraduate students ($n \sim 100$ for each of five racial groups) completed an online survey about their drinking behaviors and motivations through Qualtrics Panels. Prescreening by Qualtrics excluded the following individuals: older than 24 years ($n = 0$), not undergraduate students ($n = 8$), incomplete responses ($n = 79$), or failed more than one attention check ($n = 7$). This resulted in a final sample of 520 undergraduates (20.38% White; 20.0% Black, 19.61% Asian, 20.0% Hispanic/Latino; 20.0% Biracial/Multiracial; 50.4% female, 54.6% male, 3.1% other gender; $\text{Mode}_{\text{age}} = $ 18–20 years, $\text{Mode}_{\text{schoolyear}} = $ Sophomore).

Measurements

The following measures were randomly presented.

Motivations

Participants completed the same AlcoholEdu items outlined in Study 1a (see Tables 1 and 2) using the same scale. Composite scores were calculated based on the factors from Study 1a: motivations for drinking (Internal Coping $\alpha = .88$, External Conformity $\alpha = .85$) and motivations for abstaining (Internal Conformity $\alpha = .83$, Internal Past $\alpha = .67$, External Contextual $\alpha = .70$). Racial group reliability was as follows: Internal Coping all $\alpha s > .85$, External Conformity all $\alpha s > .79$, Internal Conformity all $\alpha s > .74$, Internal Past all $\alpha s > .60$, External Contextual all $\alpha s > .61$.

General Belongingness

Participants completed a 12-item measure of general belonging on a 7-point Likert-type scale ($7 = $ *strongly agree*; e.g., *When I'm with other people, I feel included*; Malone, Pillow, & Osman, 2012). This scale has an established two-factor model with responses loading on *acceptance/inclusion* ($\alpha = .89$) or *exclusion/rejection* ($\alpha = .90$). Racial group reliability was as follows: acceptance/inclusion all $\alpha s > .85$ and exclusion/rejection all $\alpha s > .87$.

Need to Belong

Participants completed the 10-item measure regarding one's desire to seek out and maintain enduring interpersonal attachments (Leary, Kelly, Cottrell, & Schreindorfer, 2013). Participants responded using a 5-point Likert-type scale ($5 = $ *strongly agree*) to statements such as "I want other people to accept me" ($\alpha = .80$). This measure was reliable for all groups (all $\alpha s > .74$).

Sense of Social Fit

Participants responded to 18 items related to their sense of fit at their respective universities/colleges using a 6-point Likert-type scale ($6 = $ *strongly agree*, $\alpha = .90$, e.g., I fit in well at my school; Walton & Cohen, 2007). This measure was reliable for all groups (all $\alpha s > .84$).

Rejection Sensitivity (Race)

The Rejection Sensitivity–Race measure was developed primarily for Black experiences of rejection but has also been used for Latino groups (Anglin, Greenspoon, Lighty, & Ellman, 2016). Participants completed the 12-item Rejection Sensitivity–Race Questionnaire to measure their reactivity to negative interpersonal experiences due to one's race (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). Participants were given 12 situations (e.g., Imagine you're driving down the street, and there is a police barricade just ahead. The police officers are randomly pulling people over to check drivers' licenses and registrations.) followed by two questions. Participants rate how concerned they would feel following the situation using a 6-point Likert-type scale ($6 = $ *very concerned*). Next, participants rate how much they expected discrimination on a 6-point Likert-type scale ($6 = $ *very likely*). Composite scores were calculated (reverse scoring when needed) such that higher scores indicate a likeliness to expect rejection ($\alpha = .94$). This measure was reliable for all groups (all $\alpha s > .91$).

Rejection Sensitivity (Asian)

Similar to the previous measure, this measure was adapted for Asian participants (e.g., Imagine that you are in lecture, and the professor poses a difficult question for the class. You happen to know the answer and would like to raise your hand; Chan & Mendoza-Denton, 2008). We included this for generalizability reasons (overall $\alpha = .93$, across each racial group all $\alpha s > .88$).

Results

Correlations examined the relationship between the motivations for drinking or abstaining, general belongingness (rejection/exclusion vs. acceptance/inclusion), sense of social fit, and rejection sensitivity (race and Asian adaptation; see Table 6 and Supplemental Material for all results).

Motivations for Drinking

Both drinking motivations of External Conformity and Internal Coping were positively related to race-related rejection sensitivity and need to belong. External Conformity was positively correlated with general acceptance/inclusion and social fit, whereas Internal Coping was significantly correlated with general rejection/exclusion and negatively correlated with social fit.

Motivations for Abstaining

Internal Conformity was positively correlated with need to belong and also related to general rejection/exclusion. Internal Past motivations were similarly correlated with general

Table 6. Table of Correlations of Motivation Factors and Belonging Variables.

	Motivation Factors				
Belonging Variables	Internal Coping	External Conformity	Internal Past	External Context	Internal Conformity
Acceptance/inclusion	−.01	.20***	−.08	.15**	.01
Rejection/exclusion	.14**	−.08	.25***	−.06	.14**
Need to belong	.19***	.15**	.01	.00	.13**
Sense of social fit	−.10*	.13**	−.15**	.13**	−.03
Rejection sensitivity-R	.21***	.14**	.29***	−.02	.15**
Rejection sensitivity-A	.24***	.14**	.33***	−.03	.19***

Note. *p < .05. **p < .01. ***p < .001, two-tailed.

rejection/exclusion as well as social fit but showed no relation with need to belong. External Contextual also showed no relation with need to belong and was positively correlated with general acceptance/inclusion and high social fit.

Discussion

Both drinking motivations (Internal Coping and External Conformity) were positively related to one's need to belong. Drinking motivations related to External Conformity (to celebrate) rather than Internal Coping (to relieve stress) were related to feelings of general acceptance/inclusion and social fit. Conversely, Internal Coping motivations were related to feelings of general rejection/exclusion and a low sense of social fit. Although the current work cannot determine causality between drinking motivations and feelings of acceptance versus rejection, students who more strongly cite External Conformity motivations to drink may experience more social acceptance than those drinking for Internal Coping reasons.

For abstaining motivations, only Internal Conformity was related to one's need to belong. Similar to the External Conformity drinking motivations discussed above, Internal Conformity abstaining motivations may be driven by social concerns. Those more strongly reporting Internal Past abstaining motivations (decided to cut down) may also experience higher rates of exclusion and lower social fit. However, those citing more External Contextual reasons report experiencing fewer threats to their belonging.

General Discussion

The novelty of the present findings stems from our use of one of the largest college alcohol surveys in existence. Our results indicate that drinking rates among monoracial majority, Multiracial, and minority students are influenced by different external and internal social motivations—an issue that has not been addressed and highlights a previously ignored nuance regarding alcohol use. Importantly, these findings suggest that alcohol-related interventions may need to be tailored to specific racial groups.

Psychological Motivations to Drinking

Our findings indicate that drinking motivations related to both external social conformity (having a good time with your friends) and internal coping (feeling happy) are correlated with one's need to belong and may be most applicable to White college students (Bradizza, Reifman, & Barnes, 1999; Vaughan, Corbin, & Fromme, 2009). Here, White students reported the highest frequency of heavy episodic drinking, reflective of previous work suggesting White college students' sense of belonging is related to their engagement in drinking (Griffin, Bengry-Howell, Hackley, Mistral, & Szmigin, 2009; Hsu & Reid, 2012). Furthermore, White students are more likely to be members of Greek life systems, which are associated with higher levels of drinking (Wechsler et al., 1995).

Similar to White students, Multiracial students report high frequencies of problematic drinking. However, Multiracial students demonstrate some motivations similar to White students but also endorse other motivations more similar to their monoracial minority counterparts. Since the present Multiracial sample is largely part-White, it is likely that many of these Multiracial students navigate among White social circles (although that is not reflected in this data set), such that they may drink to fit into White social circles causing their alcohol motivations to appear similar to White students.

Previous work shows that Asian students, more than White students, demonstrate stronger drinking motivations related to coping and conforming (LaBrie, Lac, Kenney, & Mirza, 2011). Comparably, the current work demonstrates that Asian students endorse coping motivations for drinking. Although this group had one of the lowest rates of problematic drinking patterns, Asian students cite desires to relieve negative internal states rather than gaining social reward when they do choose to drink. However, these results also suggests that Asian students endorse external contextual reasons to abstain from drinking more than other groups, supporting other evidence suggesting Asian individuals take more protective behaviors toward drinking (LaBrie et al., 2011).

Although Native American students report some of the highest frequencies of problematic drinking, they endorsed the identified drinking motivations significantly less than other racial groups. Native American students do show comparatively higher endorsement on abstaining motivations related

to past issues with alcohol. Similarly, both Latino and Black students also reported higher endorsement of internal past abstaining motivations and lower endorsement of the drinking motivations. Thus, the current motivations as measured by AlcoholEdu may not be reflective of all racial/ethnic groups' experiences with alcohol.

Previous motivational research on alcohol use stipulates that alcohol may also be associated with certain rewards that might either facilitate or quell use (Goldman, Del Boca, & Darkes, 1999). Moreover, individuals develop beliefs from their past experiences (social cognitive theory, Bandura, 1977). This backdrop is consistent with our findings that Native American students endorse past experience motivations for alcohol use, since they represent a population with historically high rates of alcohol use (Evans-Campbell, 2008). Additionally, Cooper, Frone, Russell, and Mudar (1995) shows that motivations to drink function alongside expectations about the possible ARCs (e.g., having fun with friends vs. getting into a fight). Therefore, White students, as the majority group on many college campuses, may hold certain social expectations about their status of belonging and how alcohol use may contribute. Conversely, minority college students who report more threatened belonging (Reid & Radhakrishnan, 2003; Swim et al., 2003) might have different expectations.

In fact, norms are a powerful moderator of alcohol consumption and the size of minority populations on campuses may inform these relationships (LaBrie, Atkins, Neighbors, Mirza, & Larimer, 2012). Many minority students find that their college transition marks their first time in a distinct role as a minority in a predominantly White environment (Alvarez, Blume, Cervantes, & Thomas, 2009) and report lower belonging than White students (Johnson et al., 2007). Thus, differences in drinking motivational endorsement suggest varying group experiences regarding alcohol use.

Implications

The present results suggest the need for college alcohol policies and student wellness efforts to expand their focus to consider racial group membership as it relates to drinking and underscores the need for student health clinicians to increasingly view students' alcohol use in the context of their racial background. These findings also highlight the importance of recruiting diverse populations for studies of alcohol drinking, as the experiences of one group are clearly not generalizable to other racial groups (Hsu & Reid, 2012; Mulia et al., 2008; Pearlin, Schieman, Fazio, & Meersman, 2005). Importantly this work also shows differences for Multiracial part-White and multiminority individuals, which serves as a unique test of the role racial group membership may play in shaping alcohol motivations.

Limitations and Future Directions

As with any secondary data analysis, there are a number of limitations related to sampling procedures, operational measures, and statistical inferences. AlcoholEdu only reflects schools that elected to introduce this program. Additionally, the completion of the survey is compulsory for most universities, which may impact response characteristics. Relatedly, the relationships between the AlcoholEdu measures and standardized measures of exclusion are correlational. Although it is not possible to randomly assign students to a particular drinking motivation group, it is clear future work should test more specific motivational measurements.

Overall, effect sizes were small according to Cohen's (1988) typical descriptions. These effect sizes hint at other potential influences from the college context such as the type of university (public vs. private), family history, and the racial make-up of one's environment (Beseler, Aharonovich, Keyes, & Hasin, 2008; Kypri & Langley, 2003; Warner, White, & Johnson, 2007). Moreover, these effect sizes may indicate that the different racial groups' motivations differ by degree, rather than by kind. Thus, it is not the case that White students are motivated by one class of motivations while Multiracial or Native American students are motivated by other categories of motivations.

Finally, the single racial demographic measure was not designed to examine within-group variation. For example, there were no measures of racial phenotypicality or racial identification—two factors that may influence social exclusion. This need also extends to pan-ethnic label use, such as grouping all Asian Americans together as one group which ignores potential ethnicity-specific differences (Chun & Akutsu, 2003). Although past work has not found consistent differences between Multiracial subgroups (Albuja, Sanchez, & Gaither, 2019; Terry-McElrath & Patrick, 2018), there was no Multiracial option/box which is a commonly selected identification (Gaither, 2015; Townsend, Markus, & Bergsieker, 2009).

Conclusions

In sum, evidence of excessive alcohol use is apparent on college campuses nation-wide and imposes real health and safety risks (e.g., Hingson, Zha, & Weitzman, 2009). The present research suggests that the most prolific college-aged alcohol users may differ by degree in their motivations for drinking associated with one's racial group membership. Knowing that certain minority groups like Black and Latino students are still disproportionately represented at many universities (Ashkenas, Park, & Pearce, 2017), and that belonging has many positive benefits (Murphy & Zirkel, 2015; Walton & Cohen, 2007), researchers aiming to address college drinking must consider racial group and motivational differences.

Funding

ORCID iD

Brenda C. Straka   https://orcid.org/0000-0001-7360-7469

Supplemental Material

The supplemental material is available in the online version of the article.

References

Albuja, A. F., Sanchez, D. T., & Gaither, S. E. (2019). Identity denied: Comparing American or White identity denial and psychological health outcomes among bicultural and biracial people. *Personality and Social Psychology Bulletin*, *45*, 416–430. doi:10.1177/0146167218788553

Alvarez, A. N., Blume, A. W., Cervantes, J. M., & Thomas, L. R. (2009). Tapping the wisdom tradition: Essential elements to mentoring students of color. *Professional Psychology: Research and Practice*, *40*, 181–188. doi:10.1037/a0012256

Anglin, D. M., Greenspoon, M., Lighty, Q., & Ellman, L. M. (2016). Race-based rejection sensitivity partially accounts for the relationship between racial discrimination and distressing attenuated positive psychotic symptoms. *Early Intervention in Psychiatry*, *10*, 411–418. doi:10.1111/eip.12184

Ashkenas, J., Park, H., & Pearce, A. (2017, August 24). Even with affirmative action, Blacks and Hispanics are more underrepresented at top colleges than 35 years ago. *The New York Times*. Retrieved from https://www.nytimes.com/interactive/2017/08/24/us/affirmative-action.html, https://www.nytimes.com/interactive/2017/08/24/us/affirmative-action.html

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215. doi:10.1037/0033-295X.84.2.191

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529. doi:10.1037/0033-2909.117.3.497

Beseler, C. L., Aharonovich, E., Keyes, K. M., & Hasin, D. S. (2008). Adult transition from at-risk drinking to alcohol dependence: The relationship of family history and drinking motives. *Alcoholism, Clinical and Experimental Research*, *32*, 607–616. doi:10.1111/j.1530-0277.2008.00619.x

Bradizza, C. M., Reifman, A., & Barnes, G. M. (1999). Social and coping reasons for drinking: Predicting alcohol misuse in adolescents. *Journal of Studies on Alcohol*, *60*, 491–499. doi:10.15288/jsa.1999.60.491

Chan, W., & Mendoza-Denton, R. (2008). Status-based rejection sensitivity among Asian Americans: Implications for psychological distress. *Journal of Personality*, *76*, 1317–1346. doi:10.1111/j.1467-6494.2008.00522.x

Chartier, K., & Caetano, R. (2010). Ethnicity and health disparities in alcohol research. *Alcohol Research & Health*, *33*, 152–160.

Chavez, G. F., & Sanchez, D. T. (2010). A clearer picture of multiracial substance use: Rates and correlates of alcohol and tobacco use in multiracial adolescents and adults. *Race and Social Problems; New York*, *2*, 1–18. doi:10.1007/s12552-010-9023-1

Chen, H. J., Balan, S., & Price, R. K. (2012). Association of contextual factors with drug use and binge drinking among White, Native American, and Mixed-Race adolescents in the general population. *Journal of Youth and Adolescence*, *41*, 1426–1441. doi:10.1007/s10964-012-9789-0

Chun, K. M., & Akutsu, P. D. (2003). Acculturation among ethnic minority families. In *Acculturation: Advances in theory, measurement, and applied research* (pp. 95–119). doi:10.1037/10472-008

Cohen, J. (1988). *Statistical Power Analysis for Behavioral Sciences* (2nd Edition). New York: Routledge, https://doi.org/10.4324/9780203771587

Colby, S., & Ortman, J. (2015). *Projections of the size and composition of the U.S. population: 2014 to 2060* (No. P25-1143, p. 13). Retrieved from U.S. Census Bureau website: https://census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf

Cooke, R., Bewick, B. M., Barkham, M., Bradley, M., & Audin, K. (2006). Measuring, monitoring and managing the psychological well-being of first year university students. *British Journal of Guidance & Counselling*, *34*, 505–517. doi:10.1080/03069880600942624

Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychological Assessment*, *6*, 117–128. doi:10.1037/1040-3590.6.2.117

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. *Journal of Personality and Social Psychology*, *69*, 990–1005.

Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence*, *23*, 316–338. doi:10.1177/0886260507312290

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–1160. doi:10.3758/BRM.41.4.1149

Gaither, S. E. (2015). "Mixed" results: Multiracial research and identity explorations. *Current Directions in Psychological Science*, *24*, 114–119. doi:10.1177/0963721414558115

Gall, T. L., Evans, D. R., & Bellerose, S. (2000). Transition to first-year university: Patterns of change in adjustment across life domains and time. *Journal of Social and Clinical Psychology*, *19*, 544–567. doi:10.1521/jscp.2000.19.4.544

Gibbons, F. X., Gerrard, M., Cleveland, M. J., Wills, T. A., & Brody, G. (2004). Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology*, *86*, 517–529. doi:10.1037/0022-3514.86.4.517

Giedd, J. N., Blumenthal, J., Jeffries, N. O., Castellanos, F. X., Liu, H., Zijdenbos, A., & Rapoport, J. L. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience*, 2, 861–863. doi:10.1038/13158

Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., Vaituzis, A. C., . . . Thompson, P. M. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences*, 101, 8174–8179. doi:10.1073/pnas.0402680101

Goings, T. C., Butler-Bente, E., McGovern, T., & Howard, M. O. (2016). Prevalence and correlates of substance use in Black, White, and biracial Black–White adolescents: Evidence for a biracial intermediate phenomena. *American Journal of Orthopsychiatry*, 86, 527–539. doi:10.1037/ort0000166

Goldman, M. S., Del Boca, F. K., & Darkes, J. (1999). Alcohol expectancy theory: The application of cognitive neuroscience. In K. Leonard & H. Blane (Eds.), *Psychological theories of drinking and alcoholism* (2nd ed., pp. 203–246). New York, NY: The Guilford Press.

Griffin, C., Bengry-Howell, A., Hackley, C., Mistral, W., & Szmigin, I. (2009). The allure of belonging: Young people's drinking practices and collective identification. In M. Wetherell (Ed.), *Identity in the 21st century: New trends in changing times* (pp. 213–230). doi:10.1057/9780230245662_12

Hingson, R. W., Zha, W., & Weitzman, E. R. (2009). Magnitude of and trends in alcohol-related mortality and morbidity among U. S. college students ages 18-24, 1998-2005. *Journal of Studies on Alcohol and Drugs Supplement*, 12–20. https://doi-org.proxy.lib.duke.edu/10.15288/jsads.2009.s16.12

Hsu, C. L., & Reid, L. D. (2012, August). Social status, binge drinking, and social satisfaction among college students. In *Annual Meeting of the American Sociological Association*.

Hurtado, S., & Ruiz, A. (2012). *The climate for underrepresented groups and diversity on campus* (p. 4). Retrieved from Higher Education Research Institute, UCLA: Cooperative Institutional Research Program website: https://heri.ucla.edu/briefs/URMBriefReport.pdf

Johnson, D. R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H. T., & Longerbeam, S. D. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, 48, 525–542. doi:10.1353/csd.2007.0054

Jones, N., & Bullock, J. (2012). *The two or more races population: 2010* (C2010BR-13, p. 24). Retrieved from U.S. Census Bureau website: https://www.census.gov/prod/cen2010/briefs/c2010br-13.pdf

Keyes, K. M., Hatzenbuehler, M. L., & Hasin, D. S. (2011). Stressful life experiences, alcohol consumption, and alcohol use disorders: The epidemiologic evidence for four main types of stressors. *Psychopharmacology*, 218, 1–17. doi:10.1007/s00213-011-2236-1

Kypri, K., & Langley, J. D. (2003). Perceived social norms and their relation to university student drinking. *Journal of Studies on Alcohol*, 64, 829–834. doi:10.15288/jsa.2003.64.829

LaBrie, J. W., Atkins, D. C., Neighbors, C., Mirza, T., & Larimer, M. E. (2012). Ethnicity specific norms and alcohol consumption among Hispanic/Latino/a and Caucasian students. *Addictive Behaviors*, 37, 573–576. doi:10.1016/j.addbeh.2012.01.007

LaBrie, J. W., Lac, A., Kenney, S. R., & Mirza, T. (2011). Protective behavioral strategies mediate the effect of drinking motives on alcohol use among heavy drinking college students: Gender and race differences. *Addictive Behaviors*, 36, 354–361. doi:10.1016/j.addbeh.2010.12.013

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of Personality Assessment*, 95, 610–624. doi:10.1080/00223891.2013.819511

Lovecchio, C. P., Wyatt, T. M., & DeJong, W. (2010). Reductions in drinking and alcohol-related harms reported by first-year college students taking an online alcohol education course: A randomized trial. *Journal of Health Communication*, 15, 805–819. doi:10.1080/10810730.2010.514032

Malone, G. P., Pillow, D. R., & Osman, A. (2012). The General Belongingness Scale (GBS): Assessing achieved belongingness. *Personality and Individual Differences*, 52, 311–316. doi:10.1016/j.paid.2011.10.027

Martin, J. N., Trego, A. B., & Nakayama, T. K. (2010). College students' racial attitudes and friendship diversity. *Howard Journal of Communications*, 21, 97–118. doi:10.1080/10646171003727367

Mendoza-Denton, R., Downey, G., Purdie, V. J., Davis, A., & Pietrzak, J. (2002). Sensitivity to status-based rejection: Implications for African American students' college experience. *Journal of Personality and Social Psychology*, 83, 896–918. doi:10.1037//0022-3514.83.4.896

Mulia, N., Ye, Y., Zemore, S. E., & Greenfield, T. K. (2008). Social disadvantage, stress, and alcohol use among Black, Hispanic, and White Americans: Findings from the 2005 U.S. national alcohol survey. *Journal of Studies on Alcohol and Drugs*, 69, 824–833. doi:10.15288/jsad.2008.69.824

Murphy, M., & Zirkel, S. (2015). Race and belonging in school: How anticipated and experienced belonging affect choice, persistence, and performance. *Teachers College Record*, 117, 40.

O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol Supplement*, 23–39. doi:10.15288/jsas.2002.s14.23

Paschall, M. J., Bersamin, M., & Flewelling, R. L. (2005). Racial/ethnic differences in the association between college attendance and heavy alcohol use: A national study. *Journal of Studies on Alcohol*, 66, 266–274. doi:10.15288/jsa.2005.66.266

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, 46, 205–219. doi:10.1177/002214650504600206

Reid, L. D., & Radhakrishnan, P. (2003). Race matters: The relation between race and general campus climate. *Cultural Diversity and Ethnic Minority Psychology*, 9, 263–275. doi:10.1037/1099-9809.9.3.263

Sanchez, D. T., & Bonam, C. M. (2009). To disclose or not to disclose biracial identity: The effect of biracial disclosure on perceiver evaluations and target responses. *Journal of Social Issues*, 65, 129–149. doi:10.1111/j.1540-4560.2008.01591.x

Shih, M., & Sanchez, D. T. (2005). Perspectives and research on the positive and negative implications of having multiple racial

identities. *Psychological Bulletin*, *131*, 569–591. doi:10.1037/0033-2909.131.4.569

Smith, M. J., Abbey, A., & Scott, R. O. (1993). Reasons for drinking alcohol: Their relationship to psychosocial variables and alcohol consumption. *International Journal of the Addictions*, *28*, 881–908. doi:10.3109/10826089309039662

Spear, S., Longshore, D., McCaffrey, D., & Ellickson, P. (2005). Prevalence of substance use among white and American Indian young adolescents in a northern plains state. *Journal of Psychoactive Drugs*, *37*, 1–6. doi:10.1080/02791072.2005.10399743

Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 national survey on drug use and health: Summary of national findings* (NSDUH No. HHS Publication No. SMA 14-4863, p. 184). Rockville, MD: Author.

Swim, J. K., Hyers, L. L., Cohen, L. L., Fitzgerald, D. C., & Bylsma, W. H. (2003). African American college students' experiences with everyday racism: Characteristics of and responses to these incidents. *Journal of Black Psychology*, *29*, 38–67. doi:10.1177/0095798402239228

Szlemko, W. J., Wood, J. W., & Thurman, P. J. (2006). Native Americans and alcohol: Past, present, and future. *The Journal of General Psychology*, *133*, 435–451. doi:10.3200/GENP.133.4.435-451

Terry-McElrath, Y. M., & Patrick, M. E. (2018). U.S. adolescent alcohol use by race/ethnicity: Consumption and perceived need to reduce/stop use. *Journal of Ethnicity in Substance Abuse*, 1–25. doi:10.1080/15332640.2018.1433094

Townsend, S. S. M., Markus, H. R., & Bergsieker, H. B. (2009). My choice, your categories: The denial of multiracial identities. *Journal of Social Issues*, *65*, 185–204. doi:10.1111/j.1540-4560.2008.01594.x

Tupler, L. A., Zapp, D., DeJong, W., Ali, M., O'Rourke, S., Looney, J. , & Swartzwelder, H. S. (2017). Alcohol-related blackouts, negative alcohol-related consequences, and motivations for drinking reported by newly matriculating transgender college students. *Alcoholism, Clinical and Experimental Research*, *41*, 1012–1023. doi:10.1111/acer.13358

Vaughan, E. L., Corbin, W. R., & Fromme, K. (2009). Academic and social motives and drinking behavior. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, *23*, 564–576. doi:10.1037/a0017331

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, *92*, 82–96. doi:10.1037/0022-3514.92.1.82

Warner, L. A., White, H. R., & Johnson, V. (2007). Alcohol initiation experiences and family history of alcoholism as predictors of problem-drinking trajectories. *Journal of Studies on Alcohol and Drugs*, *68*, 56–65.

Wechsler, H., Dowdall, G. W., Davenport, A., & Castillo, S. (1995). Correlates of college student binge drinking. *American Journal of Public Health*, *85*, 921–926. doi:10.2105/AJPH.85.7.921

Whitbeck, L. B., Chen, X., Hoyt, D. R., & Adams, G. W. (2004). Discrimination, historical loss and enculturation: Culturally specific risk and resiliency factors for alcohol abuse among American Indians. *Journal of Studies on Alcohol*, *65*, 409–418.

White, A., & Swartzwelder, S. H. (2009). Inbound college students drink heavily during the summer before their freshman year: Implications for education and prevention efforts. *American Journal of Health Education*, *40*, 90–96. doi:10.1080/19325037.2009.10599083

Wyatt, T. M., Dejong, W., & Dixon, E. (2013). Population-level administration of AlcoholEdu for college: An ARIMA time-series analysis. *Journal of Health Communication*, *18*, 898–912. doi:10.1080/10810730.2011.626501

Author Biographies

Brenda C. Straka is a PhD student studying social psychology at the Department of Psychology and Neuroscience, Duke University, Durham, NC. Her research interests include multiracial experiences, social exclusion, group membership, and outcomes stemming from identity denial.

Sarah E. Gaither is an assistant professor at the Department of Psychology and Neuroscience and a faculty affiliate for The Samuel DuBois Cook Center on Social Equity and The Center on Health and Society, Duke University, Durham, NC. Her work focuses on identity flexibility, social threat, intergroup contact, and face categorization processes across the life span.

Shawn K. Acheson is an assistant professor at the Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC. His work centers on the neurodevelopmental effects of alcohol and other drugs of abuse.

H. S. Swartzwelder is a professor at the Department of Psychiatry and Behavioral Sciences, Duke University Medical Center. He investigates the causes, prevention, and treatment of alcoholism and alcohol abuse.