Addictive Behaviors

Short Communication

Ethnicity specific norms and alcohol consumption among Hispanic/Latino/a and Caucasian students

Joseph W. LaBrie [a,*], David C. Atkins [b], Clayton Neighbors [c], Tehniat Mirza [a], Mary E. Larimer [b]

[a] Loyola Marymount University, Department of Psychology, 1 LMU Drive, Suite 4700, Los Angeles, CA 90045, USA
[b] University of Washington, 1100 NE 45th Street, Suite 300, Seattle, WA 98105, USA
[c] University of Houston, 126 Heyne Building, Houston, TX 77204-5022, USA

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ABSTRACT

Previous research has shown that social norms are among the strongest predictors of college student drinking and that normative misperceptions of more similar groups' drinking behavior may be more influential on individual drinking than those groups perceived to be more different. However, limited research has explored the moderating role of ethnicity in this context. The current study examined the differential impact that Hispanic/Latino/a and Caucasian students' normative perceptions of both typical and same-ethnicity college students' drinking behavior had on their own drinking. Participants ($N = 5{,}369$ students; 60.4% female; 81.4% Caucasian; mean age 19.9 years) from two colleges completed web-based surveys assessing their alcohol consumption, and their perceptions of the drinking behaviors of both the typical college student and the typical same race/ethnicity college student at their campus. Results demonstrated that perceived norms were significantly associated with likelihood of drinking regardless of race or ethnicity specificity, but that Hispanics/Latinos/as typically had weaker relationships between ethnicity-specific norms and drinking than general student norms and drinking. The opposite was true for Caucasians such that the relationship between same-race norms and drinking was stronger than the relationship between general student norms and drinking. Further, Hispanic/Latino/a students with high perceived norms were less likely to have consumed any alcohol than Caucasians with similar normative beliefs. Further, a campus site interaction suggests that the size of the minority population on campus relative to other students may influence the relationship between norms and drinking. Implications and targets for future investigation are discussed.

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1. Introduction

Heavy drinking and associated consequences are a continuing concern on college campuses (Hingson, 2010; Wechsler, Lee, Kuo, & Lee, 2000). Although research has primarily focused on college students in general, there is increasing focus on high-risk groups including fraternities and sororities, first-year students, and student athletes (Hummer et al., in press; LaBrie, Hummer, Grant, & Lac, 2010; Lewis, Neighbors, Oster-Aaland, Kirkeby, & Larimer, 2007; Martens, Kilmer, Beck, & Zamboanga, 2010; NIAAA, 2002, 2007; Park, Sher, Wood, & Krull, 2009). Hispanic/Latino/a students are an understudied, potentially important high-risk group. They are the fastest growing population in higher education (11.5% of college students; U.S. Department of Education, National Center for Education Statistics, 2008). Latinos/as exhibit high rates of drinking, generally second only to Caucasians (O'Malley & Johnston, 2002), but report more heavy drinking episodes

and alcohol consequences than Caucasians (Bennet, Miller, & Woodall, 1999; Mulia, Ye, Greenfield, & Zemore, 2009).

The influence of perceived drinking norms on Hispanic/Latino/a college students remains considerably understudied, despite these being among the strongest predictors of college drinking (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Normative perceptions of others' drinking are often misperceived/overestimated (Perkins, 1997; Perkins, Haines, & Rice, 2005), and regardless of accuracy, significantly influence students' drinking behavior (Clapp & McDonnell, 2000; Larimer, Turner, Mallett, & Geisner, 2004; Larimer et al., 2009; Lewis & Neighbors, 2004). Little research however, has examined the role of ethnicity in the norms-behavior link. Larimer et al. (2009) found perceived norms vary based on the ethnic specificity of the reference group, but were unable to address the magnitude of this effect within specific ethnic groups. Rice's (2007) study found most ethnic minorities drank less and estimated fewer average drinks consumed by a typical student than Caucasian students did. In contrast, Hispanics reported the highest perceptions of typical college student drinking, more so than Caucasians. Thus, different ethnic groups, Hispanics in particular, vary in how they perceive the behavior of their peers.

Hispanic students' perceptions of typical student drinking may differ as a result of who they perceive as a typical student. Overall,

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* Corresponding author at: Department of Psychology, Loyola Marymount University, 1 LMU Drive, Suite 4700, Los Angeles, CA 90045, USA. Tel.: +1 310 338 5238; fax: +1 310 338 7266.
E-mail address: jlabrie@lmu.edu (J.W. LaBrie).

college students tend to perceive the typical student as a Caucasian male (Lewis & Neighbors, 2006). However, research suggests a stronger association between drinking and perceived norms of others with whom one identifies closely (Neighbors et al., 2010; Reed, Lange, Ketchie, & Clapp, 2007). Thus, assuming ethnicity is associated with identity, Hispanic/Latinos/as should theoretically look toward other Hispanic/Latinos/as for behavioral references. Given mounting evidence that ethnicity serves as a group providing individuals with culture-specific norms for alcohol-related behaviors (Galvan & Caetano, 2003; Hatchett & Holmes, 2004), greater examination of the potential moderating influence of ethnicity is needed.

The present study builds on previous research by evaluating perceived norms of Hispanic/Latino/a and Caucasian students regarding drinking behavior of other same-race/ethnicity students and the typical college student on their campus. Perceived norms were then compared to the actual reported drinking of Hispanic/Latino/a and Caucasian students, respectively. We expected race-/ethnicity-specific norms would have a stronger association with drinks per week relative to typical student norms. We further evaluated the extent to which these associations differed between Hispanics/Latino/a and Caucasian students.

2. Method

2.1. Procedures and participants

Participants were part of the pre-intervention phase of a larger study at two west coast U.S. universities. A total of 18,069 students received a letter and email including a URL directing them to the survey. Response rates for the two campuses were 54% ($n_1 = 1817$; $n_2 = 1936$) in year 1, and 45% ($n_1 = 1,820$; $n_2 = 3,164$) in year 2. Of these, 5,369 (60.4% female; mean age 19.9) were included in analyses as they reported ethnicity as either Hispanic/Latino/a ($n = 1001$; 18.6%) or non-Hispanic Caucasian ($n = 4368$; 81.4%). Participants from Campus 1 ($n_1 = 2713$) were 793 Hispanic/Latino/a (29.2%) and 1920 (70.8) Caucasian students. Campus 2 ($n_2 = 2656$) included 208 Hispanic/Latino/a (7.8%) and 2448 Caucasian (92.2%) students. These percentages were consistent with the ethnic representation on both campuses.

2.2. Measures

2.2.1. Alcohol consumption

The Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985; Kivlahan, Marlatt, Fromme, Coppel, & Williams, 1990) measured drinks consumed by participants on each day of a typical week in the past month. Total number of drinks per typical week was calculated by summing responses for each day.

2.2.2. Perceived norms

The Drinking Norms Rating Form (DNRF; Baer, Stacy, & Larimer, 1991) assessed participants' perception of the amount of alcohol consumed on each day of a typical week for relevant reference groups, parallel to the DDQ. Analyses focused on perceived total drinks per week for the typical student at the same campus and typical student of the same campus and race/ethnicity (Caucasian or Hispanic/Latino/a).

2.3. Analytic plan

Following initial descriptive correlational analyses, regression analyses examined how ethnic identification moderated the association between perceived reference group norms (for typical students and same-ethnicity students) and drinks per week. Given the notable skew and large proportion of zeroes (26.1%) in drinking, a hurdle regression model was used (Hilbe, 2007). Hurdle models simultaneously fit two models to count outcomes: a) a logistic regression for zero vs. non-zero (i.e., no drinking vs. any drinking), and b) a truncated (because it does not include zero) negative binomial regression for non-zero

drinking. Gender was included as a covariate given its relationship to drinking, and because the two different campuses varied in the percentage of Hispanic/Latino/a students, campus was also included as a covariate. All analyses were done in R v2.12.2 (R Development Core Team, 2011) and made use of the pscl package for hurdle regression (Zeileis, Kleiber, & Jackman, 2008).

3. Results

3.1. Mean and correlational differences

On average, consistent with previous findings, Hispanic/Latino/a students ($M = 6.0$, $SD = 8.3$) consumed significantly fewer drinks than Caucasians ($M = 8.0$, $SD = 9.7$), $t(5,324) = 6.1$, $p < .01$. Among all respondents, there were significant correlations between perceived norms and self-reported drinking, though Caucasian students had a somewhat higher correlation between norms and drinking ($r = .34$) relative to Hispanic/Latino/a students ($r = .31$). Moreover, with ethnicity-specific norms the correlation of perceived norms and drinking increased for Caucasian students ($r = .39$), whereas it decreased for Hispanic/Latino/a students ($r = .24$), suggesting a different relationship between ethnicity-specific norms and drinking, which was further evaluated using hurdle regression analyses.

3.2. Hurdle regression models predicting drinks per week

Results for two hurdle regression models (using typical student norms and same ethnicity norms) are shown in Table 1. Both models included interactions of campus, perceived norms, and ethnicity. The logistic portion of the model reports odds ratios (OR) for the association of the covariates with any drinking (i.e., zero vs. non-zero). Examining the logistic regression results, Caucasian participants were more likely to report any drinking, and there were significant campus differences

Table 1
Results for hurdle regression of weekly drinking by gender, ethnicity, campus, and perceived drinking norms (typical student or same ethnicity; N = 5,160).

Predictor	Typical student norms model			Same ethnicity norms model		
	Count regression					
	RR	2.5%	97.5%	RR	2.5%	97.5%
Intercept	5.644**	5.234	6.087	6.553**	6.085	7.056
Men	1.891**	1.792	1.995	1.706**	1.617	1.801
Caucasian	1.307**	1.199	1.424	1.157**	1.064	1.259
Norms	1.040**	1.031	1.049	1.042**	1.032	1.051
Campus	1.105	0.935	1.304	1.012	0.856	1.197
Caucasian × norms	0.998	0.988	1.008	0.994	0.984	1.004
Caucasian × campus	0.829*	0.695	0.989	0.890	0.745	1.063
Campus × norms	0.979	0.958	1.002	0.968**	0.949	0.987
Caucasian × norms × campus	1.027*	1.003	1.052	1.039**	1.018	1.061
	Logistic regression					
	OR	2.5%	97.5%	OR	2.5%	97.5%
Intercept	2.443**	2.075	2.875	2.556**	2.165	3.016
Men	1.093	0.959	1.246	0.994	0.873	1.133
Caucasian	1.392**	1.145	1.692	1.356**	1.114	1.651
Norms	1.015	0.995	1.035	1.004	0.984	1.025
Campus	0.682*	0.488	0.954	0.685*	0.485	0.968
Caucasian × norms	1.040**	1.013	1.067	1.049**	1.023	1.076
Caucasian × campus	1.159	0.803	1.672	1.130	0.777	1.645
Campus × norms	1.001	0.960	1.043	1.006	0.968	1.046
Caucasian × norms × campus	0.996	0.951	1.044	0.987	0.945	1.031

Note. RR = rate ratio; OR = odds ratio; Men (0 — Women, 1 — Men); Caucasian (0 — Hispanic, 1 — Caucasian); Norms = Perceived drinking norms (either typical student or same race); Campus (0 — Campus 1, 1 — Campus 2). A truncated negative binomial model is used for the count regression portion of the model.
 * p<.05.
 ** p<.01.