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Beliefs about alcohol and the college experience as moderators of the effects of perceived drinking norms on student alcohol use

Lizabeth A. Crawford, Katherine B. Novak

Abstract

Many students view the abuse of alcohol as integral to the student role. Thus, they feel entitled to drink heavily without sanction. OLS regression was used to assess the extent to which these beliefs about alcohol and the college experience moderate the effects of descriptive and injunctive campus drinking norms on students' levels of alcohol consumption. Overall, respondents who perceived that same-sex students on their campus drank heavily tended to drink heavily themselves. This relationship was, however, strongest among individuals who viewed the abuse of alcohol as part of being a student. Although general injunctive norms were not themselves associated with levels of alcohol use, the perception that campus drinking was an acceptable activity increased levels of alcohol consumption among individuals who associated the student role with drinking. These results are discussed with reference to research on norm corrective initiatives and the anthropological literature on transitory statuses and rites of passage.

Concerns about high rates of alcohol-related harms have prompted the institutionalization of programs designed to reduce the abuse of alcohol by students at many of this nation's colleges and universities. Despite these efforts, high rates of heavy or binge drinking have persisted (Wechsler et al., 2002) and even increased in recent years. In 2005, 45% of college undergraduates reported consuming five or more drinks in a sitting within the past month, an increase of about 3% since the late 1990s (Hingson, Zha & Weitzman, 2009).

One social-psychological factor that contributes to the persistence of abusive drinking practices on college campuses is the exaggerated belief among students that heavy drinking is both a common and accepted activity at their school (Borsari & Carey, 2001). Since students tend to overestimate the extent to which their peers use alcohol and view alcohol use as desirable, they often increase their own levels of consumption which perpetuates the perception that drinking is acceptable (Prentice & Miller, 1993). A second key contributor to high rates of binge drinking among college undergraduates is of a more structural origin and reflects the nature of the student role itself.

In contemporary society, the college years are viewed as a sort of holding period between adolescence and more mature adulthood. Lacking formalized rites of passage embedded within family and religion that symbolize the transition to adulthood within primitive cultures (Van Gennep, 1960), students have created their own secularized rituals within the context of the university. These rituals, which often involve the use of alcohol and drugs, serve functions similar to rites of passage in less developed societies (Butler, 1993).

Rites of passage consist of three stages: separation, liminality, and reassimilation, during which individuals are separated from and then reintegrated into the larger society as they transition from one status to another (Van Gennep, 1960). It is during the second, liminal, stage that individuals are segregated from and perceived as distinct from the broader community, and the normative constraints characteristic of society lose much of their regulatory power (Turner, 1969; Van Gennep, 1960).

From an anthropological perspective, the college years can be viewed as a liminal phase in the transition to adulthood (Butler, 1993; Tsuda, 1993). As is typical of individuals in a transitory status (Turner, 1969; Van Gennep, 1960), students are given a kind of latitude not readily accorded to other individuals. Given their interstructural position, they are viewed as temporarily exempt from the standards of conduct that govern behavior among more mature adults. Thus, they feel free to abuse alcohol and behave in ways while intoxicated that would be considered highly inappropriate for members of other social groups. The collective use of alcohol within this context provides an almost mystical component to activities that would otherwise be regarded as mundane and ordinary, thereby enhancing the transcendent qualities of the liminal experience (Butler, 1983; Hawdon, 2005; Treise, Wolburg, & Otnes, 1999; Tsuda, 1993; Wolburg, 2001).

Adapting themes from Wolburg's (2001) analysis of students' motivations for binge drinking, Crawford and Novak (2006) constructed a measure of beliefs about alcohol and the college experience (BACE) that captures these two aspects of student drinking: the extent to which college undergraduates perceive themselves as occupying a unique, albeit temporary, status that enables them to drink irresponsibly with few negative consequences; and the degree to which they embrace the transformative effects of alcohol on their social interactions. Not surprisingly, scores on this index were strongly associated with students' personal drinking behaviors with an effect equal in magnitude to other known risk factors, including gender, Greek participation, and peer drinking. Although Crawford and Novak (2006) examined the combined effects of beliefs about alcohol and the college experience and various student background characteristics (gender, Greek participation, and precollege drinking history) on drinking behavior, they did not focus on the extent to which BACE influenced the relationship between perceived campus drinking norms and levels of alcohol consumption.

It is likely that the belief that the abuse of alcohol is a legitimate student behavior will exacerbate the relationship between perceived drinking norms and students' personal use of alcohol. Learning and enacting the roles attached to the various statuses we occupy is an important part of the socialization process (DeLamater & Myers, 2007), and students who believe that drinking heavily is something students should do are especially vulnerable to the perception, or misperception, that alcohol abuse is a common and accepted activity on their campus. Variations in BACE may also explain why some students (those individuals who do not associate alcohol use with the student role) are better able to resist prevailing situational pressures that support heavy drinking. In this paper, we examine the effects of beliefs about alcohol and the college

experience on the relationship between perceived campus drinking norms and students' levels of alcohol consumption.

Methods

Participants

The data used in this analysis were collected from students enrolled in lower-level social science courses at a medium-sized, private Midwestern university. Although all of the students present in the classes in which the survey was given opted to complete the questionnaire, there was the usual rate of absences (about 5-10% of students per session). This, along with the fact that students taking introductory courses in sociology, psychology and political science are not necessarily representative of all undergraduate students at this university, must be taken into consideration when interpreting the results of this survey. In total, 318 undergraduate students completed the survey form. Given our interest in the effects of campus drinking norms on levels of alcohol consumption, we restricted our analyses to traditional students of legal age, i.e., students age 18 - 22 who indicated they were drinkers ($n = 206$). The sample size after cases with missing data were deleted was 190.

Measures

Perceived campus drinking norms were measured in the following manner. General descriptive norms (Cialdini, Reno & Kallgren, 1990) were assessed by asking respondents to indicate how much the "typical" student at their school drinks, a standard measure of common campus drinking practices (see e.g., Baer, Stacy & Larimer, 1991; Wood, Read, Palfai, & Stephenson, 2001). There is some evidence that women respond to these kinds of questions using males as a point of reference. Thus, they may not accurately reflect what they perceive as normative for their gender (Lewis & Neighbors, 2004). Given this, we used a series of items that specified the gender of the hypothetical student to construct our measure of descriptive campus norms. Females' scores on this measure were based on their responses to three items asking about the drinking behaviors of the typical female on their campus (drinks per week, drinks per sitting, and times intoxicated during an average month), whereas males' scores reflected their responses to three questions about the typical male at their school. Responses to these questions were standardized and then summed to form a composite index ($\text{Alpha} = .72$).

A second descriptive measure, focusing on the degree to which respondents felt that drinking was especially prevalent at their school ("Students here at drink more than students at other colleges and universities."), was scored on a four-point scale (1 = "strongly disagree" to 4 = "strongly agree"). Presumably, responses to this item will reflect the extent to which students regard their institution as a "party" school.

As distinct from descriptive norms, which reflect students' perceptions of the frequency and magnitude of others' alcohol consumption, injunctive norms have an evaluative component. As

such, measures of injunctive norms reflect what students perceive to be acceptable or desirable patterns of drinking among their peers (Cialdini, et al., 1990; Borsari & Carey, 2003). Scores on the following two questions about the perceived appropriateness of alcohol use on campus ($r = .61, p < .001$) were added together into a composite measure of general injunctive drinking norms. Both variables were scored using a scale ranging from 1 = “strongly disagree” to 4 = “strongly agree.”

Most _____ students think it's okay to get drunk at parties.

Drinking is considered to be a desirable activity on this campus.

Our moderating variable, beliefs about alcohol and the college experience (BACE), was measured using the following six reasons for drinking adapted by Crawford and Novak (2006) from Wolburg's (2001) qualitative study of students' motivations for binge drinking. As indicated by its six components, this measure reflects both the extent to which college undergraduates regard themselves as occupants of a transitory status that allows for the abuse of alcohol and the value of alcohol's transformative properties.

As college students, we have the freedom to drink.

College is the best time in our life for drinking.

Drinking allows college students to live life to the fullest.

Alcohol excuses bad behavior.

Nothing else compares with the sensation or thrill you get when you drink.

Drinking makes for great stories and offers the best memories of college life.

Each question was scored using the four-point scale described in the preceding paragraph. The Alpha coefficient for this sample of .76 indicates a reasonably high degree of internal consistency across indicators.

Our dependent variable, alcohol consumption, was measured using three questions asking respondents to report the number of drinks they consume in an average week, the number of drinks they usually consume at one sitting, and the number of times they drank to the point of intoxication during the previous month. These items were standardized to give them equal weight and then summed into a composite drinking index (Alpha = .85).

In addition to the latter measures, gender (0 = male, 1 = female), Greek participation (0 = no, 1 = yes), and high school drinking status (0 = no, 1 = yes) served as control variables. Since friends' uses of alcohol is associated with both BACE and levels of drinking, we also included a single

indicator of friends' drinking behaviors ("My friends drink a lot."), scored 1 = "strongly disagree" to 4 = "strongly agree," as a statistical control in all higher-order analyses.

Results

Descriptive statistics are presented in Table 1. As shown here, the average score of roughly 13 on the BACE index indicates that respondents did not, as a group, fully embrace the notion that college is the time for irresponsible drinking. In fact, slightly under a fifth (19.9%) of the undergraduates who completed the survey scored above the scale midpoint. Nonetheless, there was a fair amount of variability on this index, with a high score of 21 (range = 6 - 24), suggesting that a number of individuals did subscribe to this mindset.

OLS regression was used to assess the relative effects of descriptive and injunctive drinking norms and BACE on students' levels of alcohol consumption, controlling for a number of other variables known to affect college student alcohol use (gender, Greek participation, high school drinking history, and friends' drinking behavior). We tested our hypotheses concerning the relationships between perceived drinking norms, BACE and levels of alcohol consumption by adding the relevant cross-product interactions into the regression model.

The results of these analyses are presented in Table 2. Column 1 of Table 2 shows the additive model. Models with cross-product interactions are presented in column 2 (general descriptive norms * BACE), column 3 (own school versus others * BACE), and column 4 (general injunctive norms * BACE), respectively.

As shown in column 1 of Table 2, general descriptive, but not general injunctive, norms were significantly associated with levels of alcohol consumption. The perception that students drank more at their school than at other colleges and university was also unrelated to respondents' levels of alcohol consumption.

As hypothesized, interactions between levels of drinking, beliefs about alcohol and the college experience, and two of the three measures of perceived campus drinking norms, the general descriptive measure (Table 2, column 2) and the general injunctive measure (Table 2, column 3), were strong enough to reach statistical significance. The cross-product of BACE and perceptions of own school versus others, the second descriptive measure, was not statistically significant. This may be due largely to a lack of variability in responses to the school comparison question, as only about 7% of the sample agreed that students at their university drank more than individuals at other schools.

We determined the nature of the two significant interactions using the method illustrated by Ross, Mirowsky, and Huber (1983). Using the unstandardized regression equation from column 2 of Table 2, we identified the direction of the interaction between general descriptive norms, BACE and drinking behavior by computing predicted drinking scores for students with low (one standard deviation below the mean) versus high (one standard deviation above the mean) scores

Table 1. Descriptive Statistics ($n = 190$)

	Mean	Standard Deviation	Range
Female	.53	.50	0 - 1
Greek Participant	.33	.47	0 - 1
Drank in High School	.72	.45	0 - 1
Friends' Drinking	2.89	.72	1 - 4
Descriptive Norms (Unstandardized)	23.66	13.96	4 - 114
Drinking at R's School vs. Others	1.78	.57	1 - 4
Injunctive Norms	6.29	1.02	2 - 8
BACE Index	13.34	2.85	6 - 24
Drinking Index (Unstandardized)	18.39	15.85	0 - 100

Table 2. Estimated Effects of Perceived Norms and BACE on Alcohol Use ($n = 190$)

	B	Beta	b	Beta	b	Beta	b	Beta
Constant	-4.40***		-4.47***		-7.70**		4.24	
Female	-1.76***	-.34	-1.74***	-.33	-1.79***	-.34	-1.78***	-.34
Greek	.66**	.12	.68*	.12	.70*	.13	.65*	.12
Drink HS	.96**	.17	.97**	.17	.94**	.16	.98**	.17
Friends Drink	.62**	.17	.61**	.17	.65**	.18	.63**	.17
DES Norm	.48***	.43	-.03	-.03	.49***	.44	.48***	.43
School vs. Others	.11	.02	.07	.02	2.01	.44	.18	.04
INJ Norm	.09	.04	.11	.04	.06	.02	-1.26*	-.50
BACE	.14**	.15	.14**	.15	.39*	.43	-.55*	-.60
DES * BACE			.04*	.47				
School * BACE					-.14	-.52		
INJ * BACE							.11*	.98
R ²	.587***		.598***		.593***		.598***	
Change R ² (from additive model)			.011*		.007		.012*	

* $p < .05$ ** $p < .01$ *** $p < .001$

on the measure of general descriptive norms, and low (one standard deviation below the mean) and high (one standard deviation above the mean) scores on the BACE index, while all other variables were held constant at their sample mean (Table 1). We used an identical procedure to discern the nature of the other significant interaction term (general injunctive norms*BACE), based on the unstandardized regression equation from column 4 of Table 2.

The relationship between general descriptive norms, BACE and students' personal levels of alcohol consumption is shown in Figure 1. Overall, students who perceived that same-sex students on their campus drank heavily tended to drink heavily themselves. This effect was, however, strongest among individuals who viewed the abuse of alcohol as an integral part of the student role.

The moderating effect of BACE on the relationship between general injunctive norms and drinking behavior is shown in Figure 2. In this case, the perception of permissive norms (i.e., the

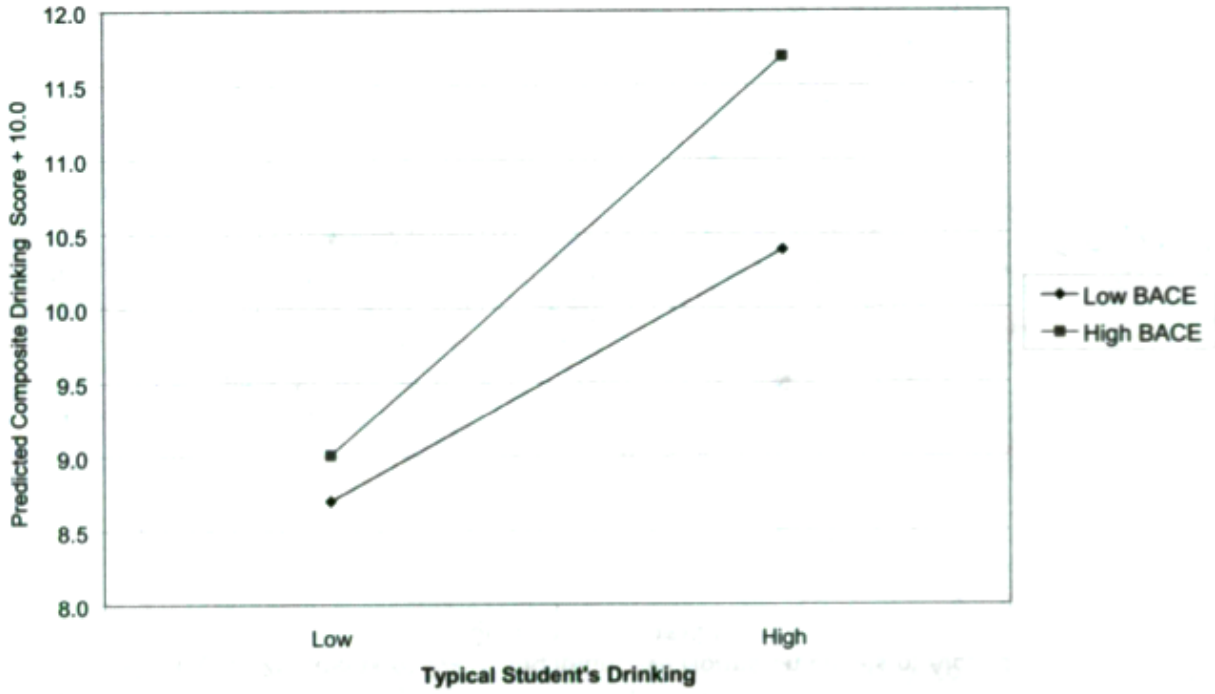


Figure 1. Effects of BACE and Descriptive Norms on Levels of Alcohol Consumption ($n = 190$)

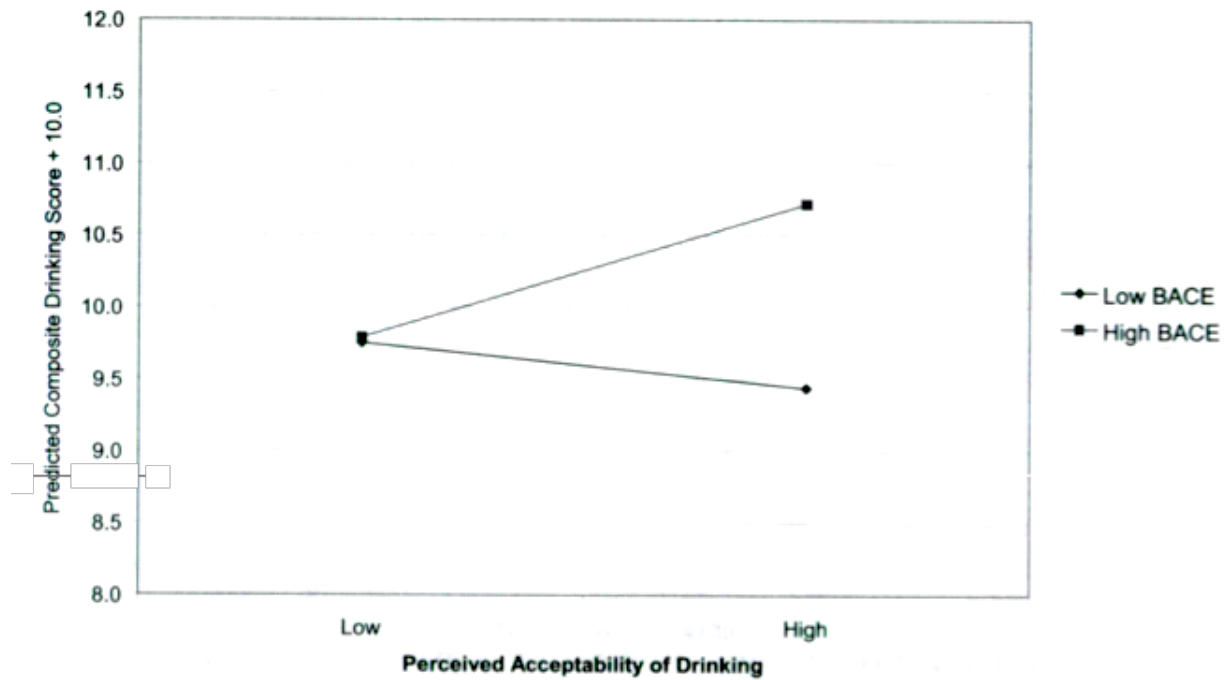


Figure 2. Effects of BACE and Injunctive Norms on Levels of Alcohol ($n = 190$)

belief that campus drinking was regarded as acceptable and desirable) increased levels of alcohol consumption only among students who associated the student role with alcohol abuse. Those individuals who felt that drinking was readily accepted at their school, but rejected the notion that students are entitled to drink irresponsibly, exhibited among the lowest levels of alcohol consumption, drinking less than students who believed that alcohol use was not viewed favorably on their campus.

More generally, injunctive norms appeared to be a potent activator of beliefs about alcohol and the college experience on students' personal drinking behaviors. While BACE had no effect on drinking among students who did not view alcohol use as an acceptable campus activity, they had a strong positive impact on levels of alcohol consumption among individuals who believed that campus drinking was regarded positively.

Discussion

Overall, our results confirmed our hypothesis that beliefs about alcohol and the college experience would affect the relationship between perceived campus drinking norms and students' personal alcohol use. The observed moderating influences of BACE on the effects of both general descriptive and injunctive norms were reasonably strong and in the predicted direction.

Perhaps our most interesting finding pertains to the effects of injunctive norms on levels of alcohol consumption. While some analyses show a positive association between general injunctive norms and alcohol use (e.g., LaBrie, Hummer, Neighbors, & Larimer, 2010; Perkins & Wechsler, 1996), others show little relationship between what individuals regard as acceptable at their school and their personal drinking behaviors (e.g., Cho, 2006; Mallett, Bachrach, & Turrisi, 2009). Moreover, in one recent analysis (Neighbors et al., 2008) general injunctive norms were inversely related to respondents' levels of drinking. The authors attribute this finding to the social distance between their study participants and other students on campus, out-group members they do not know personally.

In this analysis, general injunctive norms had a strong positive effect on drinking but only among individuals who believed that the abuse of alcohol was part of the student role. Among respondents who disagreed with this, general injunctive norms had a negative impact on levels of alcohol consumption similar to that observed by Neighbors et al. (2008).

Consistent with prior studies (Baer, Stacy, & Larimer, 1991; Cho, 2006; Wood et al., 2001), general descriptive norms were significantly related to levels of alcohol consumption. The fact that beliefs about alcohol and the college experience enhanced this effect suggests that individuals who associate heavy drinking with the student role are more susceptible to this type of social influence than undergraduates who reject this notion.

Regarding this, it is interesting to note that the latter effect does not extend to the relationship between gender-nonspecific descriptive norms and drinking behavior (Crawford & Novak,

2006). This is consistent with prior research showing a stronger effect of gender-specific than gender-nonspecific descriptive norms on alcohol use (Lewis & Neighbors, 2006) and supports the use of gender referents in questions used to measure perceived campus-wide drinking patterns.

Unfortunately, the undergraduate survey did not include gender-specific measures of injunctive norms. Neighbors et al. (2008) found that reference group (females and males versus students in general) influenced the relationship between measures of injunctive norms on students' use of alcohol. Similarly, in LaBrie et al's (2010) study, the gender-specific, but not the gender neutral, measure of general injunctive norms was related to levels of drinking. Additional research is needed to assess the relative effects on drinking behavior of gender-specific measures of general injunctive norms across levels of BACE and their implications for social norms interventions.

Most interventions that address campus-wide drinking norms have focused on perceptions of other students' behaviors, rather than on the kinds of assessments encompassed by injunctive measures. Emphasizing students' tendencies to overestimate the magnitude of others' drinking, norm corrective initiatives are designed to reduce campus drinking by providing participants with accurate information about their peers' use of alcohol. In general, interventions providing individual-level feedback (versus broader campus-wide social norms marketing campaigns) have been successful in decreasing levels of alcohol consumption (Lewis & Neighbors, 2006; White, 2006). Our findings suggest that individuals who view heavy drinking as integral to the student role would benefit most from this type of information.

The study results also highlight the potential effectiveness of interventions designed to counter the lack of constraint associated with the student status. Exposing students to more restrictive sets of adult role expectations through service requirements may be a way to combat the lack of normative regulation associated with liminality (Crawford & Novak, 2006), the stage of the rites of passage characterized by segregation and a lack of normative constraint. Service within the broader community has been shown to have positive effects at the institutional as well as the individual level. Individuals attending schools where volunteerism is common are at a substantially reduced risk for binge drinking, irrespective of their personal levels of service (Weitzman & Kawachi, 2000). Students who regularly engage in community service are also less likely to abuse alcohol than their peers (Fenzel, 2005; Weitzman & Kawachi, 2000; Weitzman & Chen, 2005).

The present study suggests that college undergraduates who view alcohol abuse as integral to the student role and perceive heavy drinking to be normative at their school may be the most likely to benefit from these kinds of commitments. Individuals within this category exhibited substantially higher levels of alcohol consumption than our other study participants. Since general injunctive norms may be difficult to modify, countering the lack of constraint that characterizes the student status may be a more feasible way to reach this group of at-risk students. Students who perceived that alcohol use was accepted and valued by others on their

campus did not themselves drink heavily if they rejected the idea that the abuse of alcohol is an important part of the college experience.

Although our results extend some earlier findings and have a number of practical applications, limitations in our sample and the design of the study render the aforementioned conclusions tentative. Our analyses were based on a convenience sample from a single school, limiting the generalization of our results. Moreover, the cross-sectional design of the study makes it impossible to determine the direction of the observed relationships between perceived norms, beliefs about alcohol and the student role and levels of drinking. Future research might address these issues by using broader, more representative samples as well as longitudinal designs providing measures of key variables over time. Additional studies are also needed to assess the efficacy of norm corrective initiatives, and activities promoting social responsibility through the expansion of role-related constraints, across individuals with varying beliefs concerning alcohol and the student identity.

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