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## **Being with Friends and the Potential for Binge Drinking During the First College Semester**

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In this prospective study, we assess the relationship between being with high school friends during the college transition and binge drinking. Across analyses ( $n = 489$ ), the presence of high school friends during the college transition was associated with reduced binge drinking at the end of the first college semester among individuals at risk for this behavior who drank in high school, associated alcohol use with the student role, or engaged in binge drinking at the beginning of the fall term. This is consistent with research linking social integration to behavioral regulation and suggests the presence of high school friends during the college transition serves as a source of social control at a juncture characterized by a reduction in normative constraint. Implications for practitioners seeking to assess new students' risks for binge drinking and to more effectively meet the needs of vulnerable groups are discussed in relation to the study results.

## **Introduction**

Alcohol use increases substantially during the transition from high school to college (Crosnoe, Kendig, & Benner, 2017; LaBrie, Lamb & Pedersen, 2008), and first-year students frequently engage in heavy episodic, or binge, drinking (Borsari, Murphy & Barnett, 2007). This puts them at risk for accidents, assault, vandalism, serious injury or death, as well as for more long-term academic or health problems (Borsari et al., 2007; Jennison, 2004; White & Hingson, 2014). Thus, determining who is likely to engage in binge drinking during the first college year and implementing effective interventions, could play an important role in protecting the health of the undergraduate population.

Factors associated with alcohol use and binge drinking among first-year students include drinking in high school (Hustad, Pearson, Neighbors, & Borsari, 2014; Sher & Rutledge, 2007) and associating alcohol use with the student role. Many students feel entitled to drink heavily and view the use of alcohol as an important part of campus life. From their perspective, college is the time in their lives for drinking to intoxication because they are able to do so with few negative social consequences (Wolberg, 2001). Low levels of normative constraint, relative to those experienced by mature adults whose lives are characterized by more restrictive familial and work responsibilities, reinforce this notion and provide students who subscribe to this view with ample opportunities for drinking (Crawford & Novak, 2006).

The lack of normative regulation experienced by college students is characteristic of what anthropologists refer to as a liminal experience. Liminality is the intermediate phase in a rite of passage, when individuals transitioning from one status to another are segregated from the larger society and accorded special privileges (Turner 1969; Van Gennep, 1960). While binge drinking and the lack of behavioral self-regulation that accompanies alcohol intoxication are not well

tolerated among mature adults, they are generally considered acceptable during the college years (Butler, 1993; Crawford & Novak, 2006).

Individuals cultivate an understanding of what it means to be a college student and about the role of alcohol in college life prior to their entry into postsecondary education. Although researchers have not measured alcohol beliefs among individuals in high school or younger, two studies suggest that viewing drinking as integral to the student role is associated with high levels of alcohol consumption and alcohol-related problems during the first college semester (Hustad et al., 2014; Osberg, Insana, Eggert, & Billingsley, 2011).

The perception that drinking is a common and acceptable practice on campus has also been linked to alcohol use and related problematic outcomes during the first college year. Descriptive campus drinking norms reflect students' perceptions of the amount or frequency with which others at their college or university drink alcohol. Injunctive campus drinking norms, on the other hand, reflect the extent to which students believe individuals at their school view drinking as a desirable activity (Borsari & Carey, 2003). Research suggests that descriptive campus norms have a stronger impact than injunctive campus norms on alcohol consumption and related problems among first-year students (Hustad et al., 2014).

Perceptions of peers' use of alcohol may be an especially important determinant of first-year students' levels of alcohol consumption. Social bonding and the desire to make new friends are important motives for drinking during the first year of college (Wolburg, 2016), and first-year students who complete surveys on this topic often indicate that they use alcohol in order to fit in socially (Borsari et al., 2007).

The characteristics of first-year students' social networks also affect their drinking behaviors. In Barnett, Ott and Clark's (2014) analysis of residence hall networks, individuals

who frequently served as the connection between residence hall network members who did not know each other well (a form of centrality), and may thus have had greater exposure to peer norms, were more frequent binge drinkers than other individuals. Similarly, the expansiveness of first-year students' social ties, measured as the number of network members they viewed as important to them, was positively related to the frequency with which they engaged in binge drinking (Barnett et al., 2014).

Although the latter patterns are consistent with the results of studies on the relationship between social network characteristics and college student drinking more generally (Rinker, Krieger, & Neighbors 2016), these kinds of effects, and other forms of peer influence, usually occur after first-year students have solidified their friendship circles. At the beginning of the school year, selection processes have a stronger impact than social influence on first-year students' use of alcohol, as individuals new to campus tend to establish friendships with people who share their precollege drinking habits (Abar & Maggs, 2010).

Not surprisingly, first-year students who attend the same college as their high school friends tend to “hang out” with these individuals, even when doing so limits their opportunities for developing new relationships (Corwin & Clintron, 2011). This type of stability in friendship networks may shape their drinking behaviors. However, because peer group norms among high school students, as well as risk factors for binge drinking in college (i.e., high school drinking, beliefs about alcohol and the student role, and perceived peer drinking), vary across individuals, the effects of being with friends during the college transition on levels of alcohol consumption may not be consistent across first-year students.

Given this, it is important to test for moderating effects when considering the relationship between transitioning to college with friends and drinking. Moderation occurs when a third

variable, or set of variables, affects the strength or direction of a relationship between an independent and a dependent variable (Baron & Kenny, 1986). In this paper, we focus on known risk factors for alcohol abuse as potential moderators of the relationship between transitioning to college with friends and binge drinking.

### **Conceptual Model**

Determinants of drinking behavior among first-year students described in the literature (high school drinking, alcohol beliefs, and descriptive campus drinking norms) might affect the relationship between being with friends during the college transition and binge drinking in two ways. The first of these processes emphasizes similarity among friends, while a second model focuses on ongoing social relationships as sources of social integration and constraint.

#### *Similarity Among High School Friends*

Like college students (Abar & Maggs, 2010), adolescents tend to select friends and maintain relationships with individuals who have attitudes and behaviors similar to their own (Burk, van der Vorst, Kerr, & Stattin, 2012; Urberg, Degirmencioglu, & Tolson, 1998; Veenstra & Dijkstra, 2011). Given this, risk factors for alcohol use and binge drinking during the transition to college, such as high school drinking, associating alcohol use with the student role, and perceiving that drinking is common at one's school, are likely to be shared among high school friends. For first-year students who exhibit these characteristics, being with high school friends during the college transition may increase binge drinking. From this perspective, the presence of high school friends, likely to hold similar beliefs about the appropriateness of alcohol use and others' drinking and to have similar drinking histories as the study participants, is likely to encourage this behavior.

### *High School Friends as Sources of Social Integration and Constraint*

In contrast, a second model suggests that transitioning to college with friends would reduce binge drinking among individuals otherwise at risk for this behavior. The presence of high school friends during the college transition, as a source of continuity in young adults' social relationships, could provide first-year students with a stable frame of reference for the interpretation of their new environment. Regular interactions with old friends may make students' precollege identities and attitudes salient (see e.g., Cassidy & Trew, 2001; Serpe, 1987) and reduce concerns about how others view them. People are less likely to worry about how they will be perceived by others when they are around individuals they know well (Buss & Briggs, 1984). Thus, irrespective of their drinking histories, first-year students with friends on campus with whom they have previously established relationships may feel less pressure than other new students to drink heavily in order to be accepted socially.

The presence of precollege friends, who are likely to know one's social history and one's family, may also serve as a source of social constraint. In his classic work on social integration and suicide, Durkheim (1897) emphasized the importance of maintaining group ties for the self-regulation of behavior. During times of transition, he argued, the loosening of social bonds results in reductions in normative constraint and increases propensities for deviant behavior.

Insofar as the presence of high school friends during the college transition places additional social constraints on individuals' behaviors, such friendships should decrease first-year students' alcohol use. Interestingly, Lindsay (2006) makes a similar argument when explaining the high levels of drinking observed among out-of-state students compared to their in-state counterparts at a large state university. She attributes these differences to out-of-state

students' distance from parents and other individuals who previously served as sources of social influence.

The model we propose here is rooted specifically in first-year students' precollege friendships and involves a similar process. If high school friends serve as a source of behavioral constraint among first-year college students, then their presence during the college transition should reduce, rather than increase, binge drinking among individuals at risk for this behavior due to their high school drinking histories or the perception that drinking is common among others on their campus.

### **Study Purpose and Hypotheses**

There are, to the authors' knowledge, no previous studies focusing on how the presence of high school friends during the college transition impacts first-year students' alcohol use. This is a potentially significant omission, as many students begin their first year of college in the presence of at least some of their high school friends. Not only could understanding how this affects their use of alcohol help practitioners better assess new students' risks for binge drinking, but it could also lead to the development of alcohol-reduction strategies tailored to the needs of those individuals most in need of intervention during the college transition.

In this paper, we extend earlier research on college student drinking by assessing how the presence of high school friends and risk factors for alcohol use and binge drinking intersect to influence binge-drinking behavior among first-year students. While we did not expect that the presence of high school friends during the college transition itself will be related to binge drinking among first-year students, we hypothesized that three variables—high school drinking, alcohol beliefs, and descriptive campus drinking norms—would moderate the relationship between high school friends and this outcome. At high levels of high school drinking, alcohol beliefs, or descriptive campus drinking norms, a positive association between being with high



school friends during the college transition and binge drinking would provide support for the similar friends model. On the other hand, an inverse association between the presence of high school friends and binge drinking at high levels of high school drinking, alcohol beliefs, and descriptive drinking norms would be consistent with the social integration and constraint model.

## **Method**

### *Participants*

The data used in this analysis are from two waves of a longitudinal survey, given to first-year students at a medium-sized, private midwestern university at the beginning and at the end of the fall semester. Both the initial and the follow-up questionnaires were administered in a class on the college experience taken by more than 80% of the university's incoming first-year students. Of the almost 1,000 students enrolled in this course, 539 (55%) completed both the initial questionnaire and the follow-up survey.

The gender compositions of the study sample and the first-year student population that year were comparable (at 58% and 54% female, respectively). Moreover, as is typical at this institution, most respondents were of traditional college age. Given our focus on the transition from high school to college, seven nontraditional-aged students (age 21 or older) were dropped from the study.

### *Measures*

***Binge drinking.*** Our dependent variable, binge drinking at the end of the fall semester (Time 2), was constructed using two questions adapted from the Core Alcohol and Drug Survey (Presley, Meilman, & Lyster, 1994). Respondents were asked to report the number of times in the past two weeks they had consumed four and, in a subsequent question, five or more drinks in one sitting. Using these two items, we created a continuous version of Wechsler and colleagues' gender-specific (5/4) measure of binge drinking (Wechsler & Nelson, 2001). This variable

reflected the number of times men had five or more, and women had four or more, drinks in a sitting during the two weeks prior to completing of the survey

***Presence of friends during the college transition.*** We derived our key independent variable, the presence of friends during the college transition, from a modified version of Brissette, Scheier, and Carver's (2002) measure of the size of students' campus-based friendship networks. On the initial (early fall) survey, respondents were asked to report how many of their high school friends were currently attending their university.

***Risk factors for alcohol use and binge drinking.*** Risk factors for alcohol use and binge drinking during the college transition were also measured at Time 1, the beginning of the first college semester. High school drinking was measured as the number of times students drank during an average month during their senior year. Alcohol beliefs were assessed using a six-item index that reflects the extent to which individuals associated alcohol use with the student role and felt that alcohol-induced transgressions were socially acceptable (Crawford & Novak, 2006). The questions in the index (e.g., "As college students we have the freedom to drink"), were developed using themes from Wolburg's (2001) qualitative research on college students' motivations for heavy drinking and emphasize the transitional nature of the student status and the lack of constraint that characterizes a liminal experience. Each item was scored using a 5-point Likert scale, with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), so that high values on this measure indicated support for the belief that alcohol use is integral to the college experience and thus an important aspect of the student role (Crawford & Novak, 2006). This measure yielded a high level of internal consistency among the first-year student sample (Alpha = .78).

Using referents similar to those in prior studies (e.g., Baer, Stacy, & Larimer, 1991), descriptive campus drinking norms were measured at Time 1 using two gender-specific questions. These questions asked students to report how many days they thought the “typical” first-year male or female, depending upon their gender, at their school drank during the past month and how many drinks they believed the “typical” first-year male/female at their school consumed during their last drinking episode ( $r = .39$ ,  $p = .001$ ). These questions were standardized to give them equal weight and then summed.

Since early college drinking patterns often persist over time (Crosnoe et al., 2017), we included the measure of binge drinking at Time 1 as an additional risk factor for binge drinking at Time 2, the end of the fall semester. This measure was scored in a manner identical to our dependent variable and reflects the frequency with which respondents engaged in binge drinking during the first two weeks of their first college semester.

As first-semester college students, the study participants had not yet had time to become fully integrated into the Greek system. Nonetheless, given the association between participation in the Greek life and alcohol use (Borsari et al., 2007), we included a dummy variable reflecting students’ involvement with Greek organizations (0 = not affiliated with the Greek system, 1 = affiliated with the Greek system) as a statistical control in all higher-order analyses. We also controlled for gender using the dummy variable female (0 = male, 1 = female).

### *Data Analysis*

Hierarchical OLS regression was used to test for moderation in the manner recommended by Aiken and West (1991). Number of high school friends present during the college transition and each of the potential moderators (high school drinking, alcohol beliefs, descriptive campus

drinking norms, and binge drinking at Time 1) were centered, after which a series of cross-product interactions were computed.

Altogether, we estimated five sequential regression models. They were: (1) the model with only the independent and control variables as predictors (the base model), (2) the base model plus the cross-product interaction between number of high school friends and high school drinking, (3) the base model plus the interaction between number of high school friends and alcohol beliefs, (4) the base model plus the interaction between number of high school friends and descriptive campus drinking norms, and (5) the base model plus the interaction between number of high school friends and Time 1 binge drinking. Respondents with missing data on one or more variables (less than 10% of the study sample) were dropped from the regression analyses.

## Results

Descriptive statistics, shown in Table 1, indicate that respondents varied substantially in the number of high school friends in attendance at their university ( $SD = 3.5$ ). On average, the first-year students in the study sample reported that between two and three high school friends were also attending their university. Not surprisingly, the average frequency with which students engaged in binge drinking increased over the course of the first college semester (Table 1).

Table 1

### *Descriptive Statistics*

<b>Variable</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Range</b>	<b><i>n</i></b>
# HS friends at university	2.51	3.52	0 – 25	539
Female	.58	.49	0 – 1	539
Frequency HS drinking/month	1.14	2.32	0 – 25	532
Alcohol beliefs	13.44	3.86	6 – 24	536
Perceived drinking norms	.03	1.70	-3.47 – 7.25	536
Greek involvement	.33	.47	0 – 1	532

Frequency binge time 1/2 weeks	.57	1.23	0 – 10	531
Frequency binge time 2/2 weeks	.74	1.51	0 – 10	527

As hypothesized, the presence of high school friends did not itself affect the frequency with which first-year students engaged in binge drinking. However, individuals who drank regularly in high school, students who associated the use of alcohol with the student role, and binge drinkers at Time 1 were at risk for frequent binge drinking at the end of the fall semester (Table 2, column 1).

Table 2

*Estimated Effects of Number of High School Friends and Time 1 Risk Factors for Alcohol Abuse on Binge Drinking at Time 2 (n = 489)*

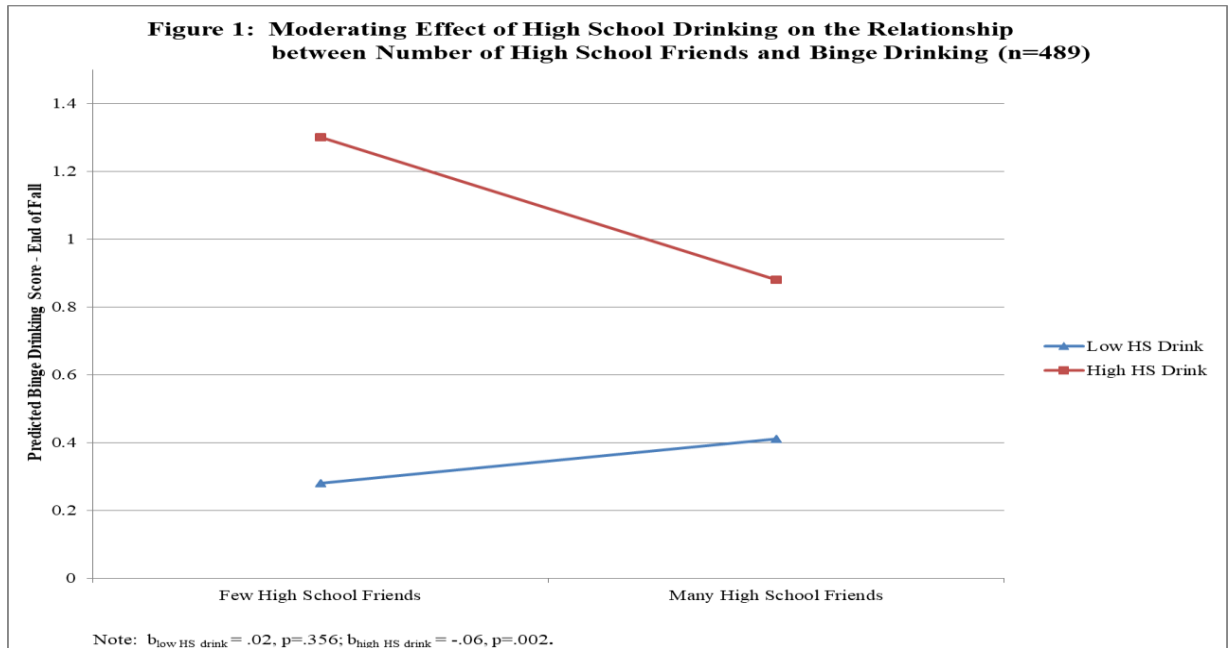
Variable	1		2		3		4	
	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta
Constant	.82***		.83***		.82***		.83***	
# HS friends at university	-.02	-.05	-.02	-.05	-.03	.08	-.02	-.04
Female	-.25*	-.08	-.25*	-.09	-.25*	-.08	-.25*	-.08
HS drinking	.17***	.24	.18***	.32	.17***	.24	.18***	.26
Alcohol beliefs	.04**	.11	.04*	.11	.04*	.11	.04*	.11
Perceived norms	.06	.07	.05	.06	.06	.07	.05	.06
Greek involvement	.13	.04	.13	.04	.12	.04	.14	.04
Time 1 binge drinking	.32***	.27	.36***	.31	.34***	.29	.36***	.36
#Friends x HS drinking			-.02**	-.13				
#Friends x Alcohol beliefs					-.01*	-.10		
#Friends x Time 1 binge							-.03**	-.13
<i>R</i> <sup>2</sup>	.310***		.326***		.318***		.324***	
$\Delta R^2$			.016*		.008*		.014**	

In support of our hypotheses, three variables—high school drinking, alcohol beliefs, and early (Time 1) binge drinking—moderated the relationship between the number of high school friends present during the college transition and the frequency with which students engaged in binge drinking at the end of their first college semester (presented in columns 2, 3, and 4 of Table 2, respectively). As descriptive drinking norms did not significantly affect the relationship between number of high school friends and binge drinking at Time 2, the statistical model including this interaction is not shown.

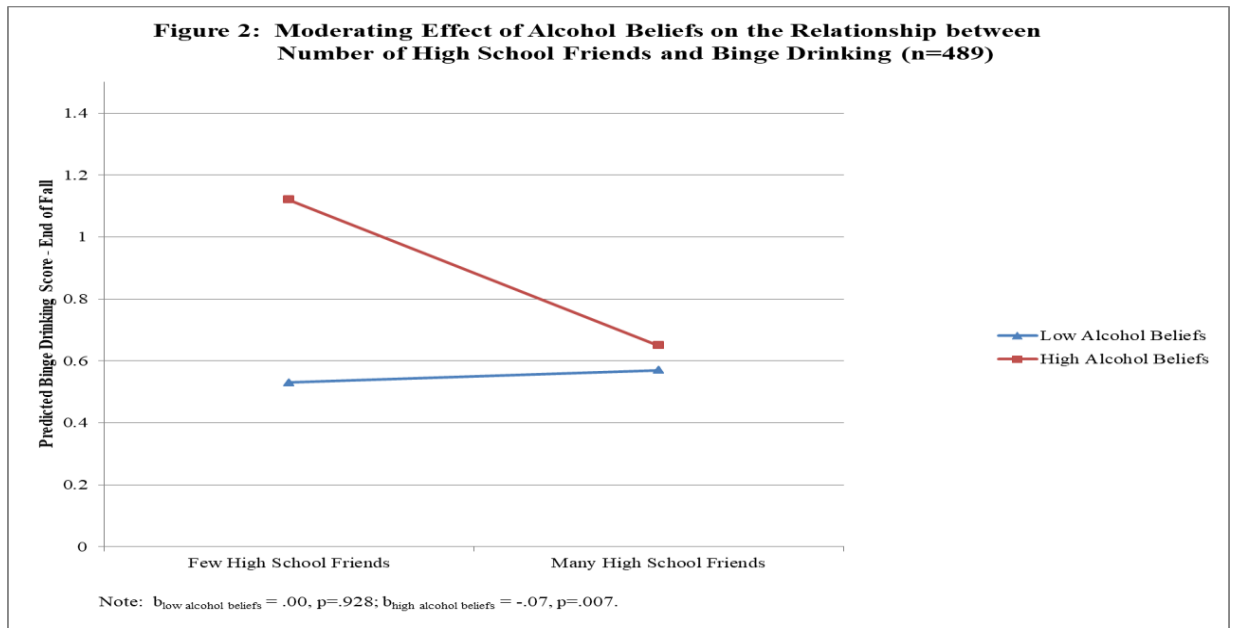
In order to determine the nature of the moderating effect of high school drinking on the relationship between transitioning to college with friends and binge drinking at the end of the first college semester, we used the simple slope analysis described by Aiken and West (1991). Predicted drinking scores were calculated using the regression equation from column 2 of Table 2. Scores on the independent variable, the number of first-year students' high school friends who were on campus during the college transition, and on the moderator, high school drinking, were each varied from low (one standard deviation below the mean score) to high (one standard deviation above the mean score), with all other model variables held constant at their sample means.

Among students at risk for heavy drinking because they drank frequently in high school, there was a strong negative relationship between the number of high school friends present during the college transition and binge drinking at the end of the first college semester. On the other hand, among individuals who rarely drank in high school, the relationship between number of high school friends and binge drinking was minimal and not statistically significant. Across levels of the high school friends variable, the frequency with which respondents who rarely

drank in high school engaged in binge drinking at the end of their first college semester was, overall, quite low (Figure 1).

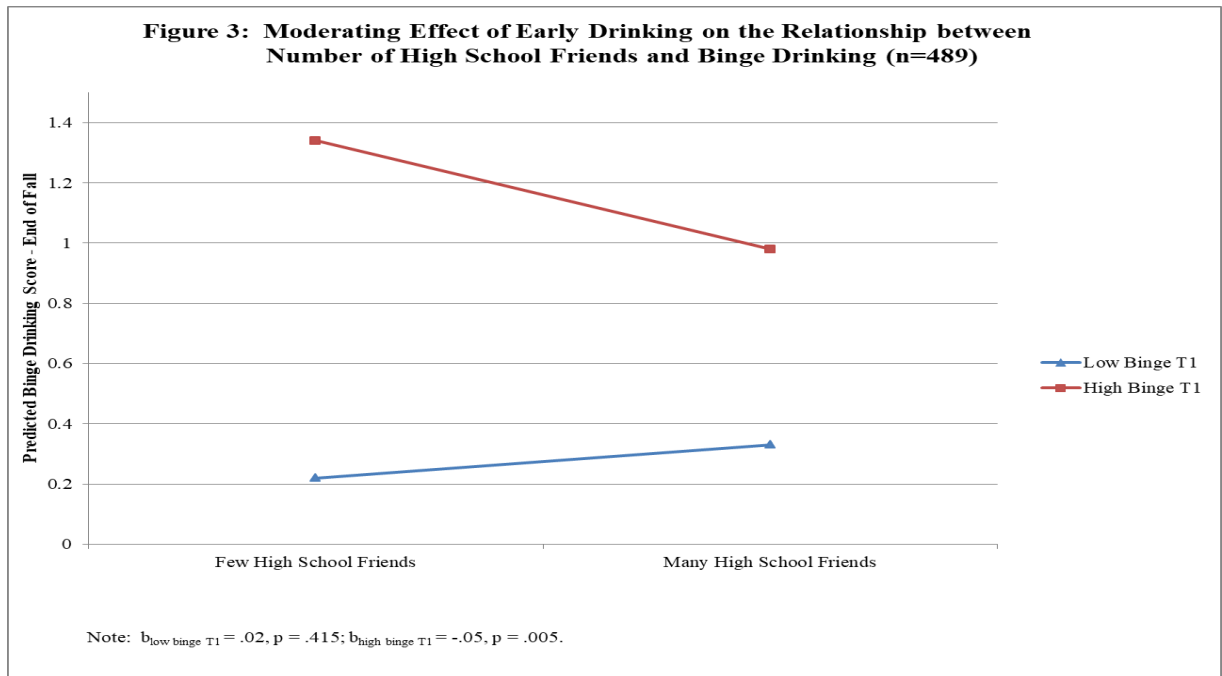


The directions of the other two moderating effects were determined using an identical procedure (using the regression equations from columns 3 and 4 of Table 2, respectively). The effect of number of high school friends on binge drinking across levels of alcohol beliefs was similar to that obtained earlier, when high school drinking was the moderator. Among first-year students at risk for heavy drinking because they associated alcohol use with the student role, the number of friends from high school on campus during the college transition was inversely related to levels of binge drinking at the end of the first college semester. However, transitioning to college with friends was not significantly associated with binge drinking at the end of the first college semester among first-year students who did not believe alcohol use is an important part of the college experience. These individuals rarely engaged in binge drinking irrespective of how many of their high school friends were attending their school (Figure 2).



Changes in predicted drinking scores across the number of high school friends that were in attendance at respondents' university during their college transition and levels of binge drinking at Time 1 (the beginning of the academic year) mirror the patterns presented in figures 1 and 2. Among first-year students at risk for binge drinking, because they engaged in this behavior at the beginning of the school year, the number of friends from high school in attendance at their university during the college transition was inversely related to the frequency with which they engaged in binge drinking at the end of the end of the fall semester. Among infrequent binge drinkers at Time 1, on the other hand, the number of high school friends on campus during the college transition was not significantly related to how frequently they engaged in this behavior at the end of the fall term. These individuals had low binge drinking scores at Time 2 regardless of whether they began college in the presence of high school friends (Figure 3).





Overall, the two groups of students at the greatest risk for binge drinking when they transitioned to college with few high school friends were individuals who regularly drank in high school and those who frequently engaged in binge drinking at the beginning of the first college semester (Figures 1 & 3, respectively). However, as predicted, the moderating effect of alcohol beliefs on the relationship between the number of high school friends on campus during the college transition and binge drinking at Time 2 was pronounced. Thus, students who transitioned to college with few high school friends were also at a notable risk for binge drinking when they associated alcohol use with the student role (Figure 2).

## Discussion

In their study of first-year students' residence hall friendships, Barnett and associates (2014) found that a construct related to network size, the number of individuals respondents listed as being important to them, was associated with the frequency with which first-year students engaged in binge drinking during the fall semester. By contrast, in our analysis the

number of high school friends in attendance at respondents' university was, itself, unrelated to binge drinking at the end of the fall term. This suggests that old, precollege, and new friendships, established after the school year begins, have different effects on binge drinking during the first college semester.

Focusing on moderating relationships, we tested two opposing models of how risk factors for alcohol use and binge drinking among first-year students might affect the relationship between being with friends during the college transition and binge drinking at the end of the first college semester. The first model, rooted in the notion that high school students are likely to have friends with similar attitudes toward alcohol and drinking behaviors to their own, suggests that being with high school friends during the college transition will increase the frequency with which first-year students at risk for binge drinking engage in this behavior. On the other hand, the second model, which emphasizes the link between the presence of high school friends, social integration and social constraint, predicts that having friends from high school on campus during the college transition will reduce binge drinking among individuals at risk for this activity because they frequently drank in high school, believed that use of alcohol is part of being a student, or thought that other students at their school regularly used alcohol.

The study results clearly support the second, social integration/social constraint, model. When few of their friends from high school attended their university, first-year students who regularly drank in high school, or who associated the use of alcohol with the student role, were at risk for binge drinking at the end of their first college semester.

Descriptive campus drinking norms did not, however, moderate the effects of being with friends during the college transition on the frequency with which respondents' engaged in binge drinking at the end of the fall semester. Given the positive relationship between concerns about

others' evaluations and reactivity to social expectations (Buss, 1980), the lack of an interaction between having high school friends on campus, descriptive campus drinking norms, and binge drinking makes it unlikely that reductions in self-presentational concerns (the extent to which students worry about how others will view them), associated with the presence of high school friends, are at the root of our other findings.

In contrast, the sizable interaction between the association of alcohol use with the student role, the presence of high school friends, and binge drinking at the end of the fall semester provides strong support for a social constraint interpretation. The belief that the use of alcohol is an important part of college life reflects students' transitional status and the experience of liminality, which gives their group special privileges, including the right to drink without the repercussions that tend to accompany this behavior among mature adults (Butler, 1993; Crawford & Novak, 2006). The effect of the belief that alcohol is integral to the student role on binge drinking among first-year students who transitioned to college in the presence of high school friends was negligible in comparison to that observed among individuals who had few high school friends in attendance at their school during the college transition. This suggests that having friends from high school on campus, who are likely to know individuals' family members and social histories, combats the lack of behavioral regulation characteristic of liminality.

The number of high school friends in attendance at respondents' school during the college transition was also inversely related to binge drinking at the end of the fall semester among individuals at risk for this behavior because they drank heavily at the beginning of their first college semester. Thus, across analyses, our findings strongly suggest that the presence of friends from high school during the college transition serves as a source of social control at a juncture characterized by a reduction in normative constraint.

From a theoretical standpoint, this research is significant in that it illustrates the applicability of Durkheim's (1897) model linking social integration and behavioral regulation to the experiences of first-year college students transitioning into their new social environment. Given the liminal nature of the student status, social integration and constraint are often lacking on college campuses (Butler, 1993; Crawford & Novak, 2006). Within this context, analyzing the relationship between the presence of high school friends, an aspect of the college transition that is rarely considered, and binge drinking in relation to Durkheim's theory provides new insights into who is at risk for this behavior during their first college semester. It also draws attention to how binge drinking among first-year students might be reduced and highlights the potential usefulness of early intervention among at-risk groups.

#### *Implications for Practice*

In practical terms, this analysis shows that assessing the risk for binge drinking among first-year students can be done fairly easily at the beginning of the school year if practitioners have access to most, or many, of the incoming cohort of students at orientation, in first-year seminars, or some other venue. Regarding the issue of first-year students' ties to home and, in particular, whether they transition to college with friends, it is worth mentioning that measuring this construct—as the number of friends in attendance at individuals' college or university at the beginning of the school year—is relatively straightforward.

The patterns observed in this study may be especially relevant to residential institutions that draw from a broad range of geographical regions, as the majority of the students on these campuses are unlikely to have prior (precollege) relationships with peers attending their school. Should the current findings generalize to these and other schools, the question becomes, what can be done to increase students' levels of social integration, and thus the regulation of their

drinking behaviors through informal (interpersonal) means? The target of these interventions would be first-year students at risk for binge drinking because they transitioned to college with few high school friends and had either a history of drinking in high school or associated alcohol use with the student role (or had both of these characteristics).

Service activities, which have been shown to reduce binge drinking on college campuses (Finlay, Nilam, Maggs, & Caldwell, 2012; Theall et al., 2009; Weitzman & Chen, 2005), may be especially beneficial for these at-risk groups. By fostering relationships with adults, as well as adherence to workplace and community norms, these types of commitments have the potential to counteract the separation of students from the rest of adult society, a hallmark of liminality, and to serve as sources of behavioral regulation and social constraint (Crawford & Novak, 2006).

Similarly, outdoor orientation programs (OOPs), which involve service projects or activities like backpacking (Bell, Homes, & Williams, 2010), might reduce first-year students' risk for alcohol abuse. In addition to facilitating the development of skills such, as time management and critical thinking, these programs promote social bonding (Bell, 2012) and help new students make friends (Willett, 2014).

Other, less intensive, programs with the potential to attain similar outcomes might involve assigning first-year students peer mentors or placing them into groups and requiring them to participate in academic or social activities collectively prior to the first college semester. New students likely to transition to college in the absence of friends might also be encouraged to contact their future roommates or other incoming students over the summer. While it might be difficult to determine before the beginning of the fall semester which students will, or will not, be with friends during the college transition, data on the experiences of previous undergraduates at a given institution by high school, community, or region could be of use in selecting program

participants likely to have few friends in their immediate campus-based networks during this period.

The fact that transitioning to college with friends substantially reduced the effect of early college drinking (during the first two weeks of the academic year) on students' risk for binge drinking at the end of the fall semester in our analysis highlights the potential importance of this kind of early intervention. Students who begin college without a campus-based network of precollege friends may benefit most from programs designed to reduce binge drinking by increasing social integration either before, or during the weeks immediately following, their arrival in the fall.

#### *Study Limitations and Directions for Future Research*

Although the longitudinal design of our survey enabled us to track the drinking behaviors of a cohort of new students through the first college semester in relation to a variety of risk factors, the generalizability of these findings is limited by the focus on a single school. There is certainly reason to believe that more mature, nontraditional students; individuals attending community colleges; or students at nonresidential four-year schools would be largely unaffected by the variables examined in this study. These individuals often have work and family responsibilities that reduce their susceptibility to the kinds of factors (e.g., associating alcohol use with the student role) that facilitate alcohol use and heavy drinking among traditional-aged students who live on or near campus.

Future analyses are needed to assess the applicability of our results to first-year students at other colleges and universities. Evaluating the extent that the patterns we observed in this study are generalizable to other residential schools, where students are mainly of traditional college age, could prove especially useful. Given the nature of the factors that intersect during

the college transition to put first-year students at risk for binge drinking by the end of their first semester (i.e., the absence of high school friends, along with drinking in high school, permissive alcohol beliefs, or binge drinking shortly after arriving on campus), the prevention strategies described earlier are likely to be most effective within this type of institutional setting.

Since there is substantial variation in the geographic regions from which institutions draw students, researchers might also consider the distance first-year students are from home and whether they are from out of state. If students from out-of-state drink more than those from in-state, as observed by Lindsay (2006), it would be interesting to determine the extent to which this difference is attributable to a relatively small number of high school friends in attendance at their college or university.

In addition, researchers might assess how their schools' current programs affect binge drinking among the kinds of students at risk for this behavior as identified in this study. Colleges and universities with OOPs, or service requirements initiated at the onset of the first college semester, would be ideal settings for these investigations. In as much as these programs are effective in cultivating meaningful relationships, and these social ties serve a similar regulatory function as older (high school) friendships, they should have the potential to reduce binge drinking among a segment of the first-year population. Depending upon the characteristics of their students, this could be a sizable group in many institutions.

The data upon which our analyses were based pertain only to students' drinking behaviors over the course of the first college semester. Other studies might also examine the more long-term consequences of transitioning to college with high school friends on students' drinking, throughout, and beyond, the first college year.

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