

Perceived Behavioral Alcohol Norms Predict Drinking for College Students While Studying Abroad*

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ABSTRACT. Objective: College students who study abroad may represent a subgroup at risk for increased drinking while living in foreign countries. The present study explores this idea as well as the extent to which students' pre-abroad perceptions of study-abroad student drinking are related to actual drinking while abroad. **Method:** Ninety-one students planning to study abroad completed an online survey of demographics, pre-abroad drinking behavior, perceptions of study-abroad student drinking behavior while abroad, and intentions to drink while abroad. Halfway into their study-abroad experience, participants completed a follow-up survey assessing drinking while abroad. **Results:** Pre-abroad intentions of drinking and pre-abroad perceptions of study-abroad drinking were associated with actual drinking while abroad. However, perceptions predicted actual drinking while abroad over and above intended drinking.

In addition, although participants overall did not significantly increase their drinking while studying abroad, participants with higher pre-abroad perceived norms significantly increased their own drinking behavior while abroad. **Conclusions:** As in other samples of college students, perceived norms appear to be an important correlate of study-abroad student drinking behavior. Findings suggest that perceptions of study-abroad student-specific drinking predicted not only actual drinking while abroad but also increases in drinking from pre-abroad levels. Findings provide preliminary support for the idea that presenting prospective study-abroad students with accurate norms of study-abroad student-drinking behavior may help prevent increased or heavy drinking during this period. (*J. Stud. Alcohol Drugs* 70: 924-928, 2009)

HHEAVY DRINKING AMONG COLLEGE STUDENTS remains a national concern that can lead to a multitude of alcohol-related consequences for individuals and the surrounding campus community (Hingson et al., 2005; Wechsler et al., 2002). One specific subgroup that may be at a heightened risk for increased alcohol use is students studying abroad in foreign countries. Little research has been conducted on this subgroup, although study-abroad students make up a substantial proportion of college students. According to the Open Doors Report (2008), approximately 250,000 students from U.S. colleges and universities studied abroad during the 2006-2007 academic year. The number of study-abroad students has more than doubled over the past decade and is likely to increase threefold by 2016-2017 (Commission on the Abraham Lincoln Study Abroad Fellowship Program, 2005).

Studying abroad may be a high-risk context that increases students' susceptibility to a number of unique environmental and peer influences on drinking decisions. Although no em-

pirical evidence exists, experts report that alcohol use and abuse during study-abroad trips is a serious concern (Epstein, 2005; Epstein and Rhodes, 2000). Lower drinking-age limits in foreign countries may offer students younger than age 21 considerably easy access to alcohol. Beyond increased access, studying abroad represents a developmental transition for students where there is limited family involvement and increased independence, similar to other transitory periods associated with increased drinking (e.g., Schulenberg et al., 2001; Sher and Rutledge, 2007). Novel social situations with direct pressure to drink with newly established peers might emerge. Alcohol may serve as a bonding agent between study-abroad students immersed in a foreign culture. Furthermore, students may study abroad with the specific intention to drink at higher levels than they normally do because of the limited structure/perceived freedom of the experience abroad.

Although these new environmental conditions offer opportunities to consume alcohol, actual decisions to drink may be predicated on one of the most consistent predictors of alcohol use in college—indirect social influence from peers (Borsari and Carey, 2001, 2003). Perceived norms, or perceptions as to how people in a social group think and behave, have been cited as among the strongest predictors of individual drinking rates within this population (e.g., Borsari and Carey, 2003; Neighbors et al., 2007; Perkins, 2003).

The normative influence on drinking may be even greater among tightly knit subgroups. According to Social Impact

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Theory (Latane, 1981), students may be more likely to be influenced by the perceived behaviors of groups of students who are closer in proximity and familiarity to themselves. Several studies have shown that perceptions of behavior within specific subgroups of students (e.g., gender-specific norms, group-specific norms) are likely to have greater influence over one's own behavior than those of more distal groups (e.g., the college population as a whole; e.g., Borsari and Carey, 2003; Lewis and Neighbors, 2004, 2007). Given the close proximity and small-group nature of students who travel abroad, as well as the added environmental novelty and risk, it is important to examine the role of indirect peer influence among this population.

The present study was among the first to empirically evaluate the changes in drinking from pre-abroad levels and to explore the relationship between pre-abroad intended drinking levels, perceived drinking norms, and actual behavior. We hypothesized that students' pre-abroad perceptions of study-abroad student drinking would be associated with their own drinking while abroad. In addition, because of potential environmental triggers for drinking, we anticipated that students would increase their drinking during study abroad from pre-abroad levels and that changes in behavior would vary as a function of one's perceived norms.

Method

Participants

Spring semester study-abroad students ($N = 115$) from a mid-sized West Coast university were recruited to participate in this study during a required pre-departure meeting held by the Office of Global Affairs. Ninety-one students (79% recruitment rate) completed the online baseline survey. Sixty-one completed a follow-up survey sent via email 10 weeks/halfway into their experience abroad, yielding a 67% retention rate. There were no significant differences between follow-up completers and noncompleters on pre-abroad drinking, intentions, or perceptions ($p > .05$ on all tests).

Participants had a mean (SD) age of 20.13 (0.81) years and included 60 women (66%). Ethnicity varied, with 64% categorized as white, 12% Hispanic/Latino, 8% mixed ethnicity, 6% Asian/Pacific Islander, and 10% other ethnicities. The majority of the sample had current junior-class status (91%), and 81% studied abroad in European countries (e.g., England, Germany, Italy, Spain), with 7% in Asian countries (e.g., Korea, Japan), 4% in Australia, 6% at sea (i.e., living on a ship and stopping in several countries), and 2% in other regions (Central America and India). In comparison with study-abroad students throughout the country (Open Doors, 2008), the sample was representative in terms of gender but overrepresentative in terms of ethnic minorities and junior students.

Design and procedure

Participants received an email containing a link to the baseline survey 2 weeks before departing for their trip abroad. The survey contained an electronic local institutional review board-approved consent form. Ten weeks into the experience abroad, all participants who completed the baseline survey were emailed a link to a follow-up survey and were given 3 weeks to complete it.

Baseline survey. The baseline survey contained demographic questions assessing age, gender, ethnicity, class year, and country of the study-abroad program. Participants also were asked two open-ended questions regarding their intended drinking behavior while abroad ("typical number of drinks consumed per occasion" and "typical number of drinking days per week"). The responses to these two questions were multiplied together to form a pre-abroad composite variable of intended drinks per week.

Participants were asked about their perceptions regarding the drinking behavior of a typical student from their university studying abroad in a foreign country. Five perceived descriptive-norms items assessed typical frequency of drinking, typical amount consumed when drinking (i.e., average number of drinks), typical number of drinks consumed per week, maximum number of drinks consumed during one occasion, and number of times a student engaged in heavy episodic drinking (five or more drinks in a row for men, four or more drinks in a row for women) during a typical 2-week period. Response options for these variables varied from 1 (lowest risk; e.g., 0 drinks per occasion, 0 drinks per week) to 9 (highest risk; e.g., 13 or more drinks per occasion, 22 or more drinks per week). Responses for the five questions were averaged to create a robust descriptive-norms composite variable ($\alpha = .76$; pre-abroad perceived norm; mean = 5.08 [1.05]).

Finally, actual alcohol use was assessed with the Daily Drinking Questionnaire (Collins et al., 1985; Kivlahan et al., 1990). Participants indicated how many drinks they typically consumed on each day of a typical week during the fall semester. A pre-abroad drinks-per-week variable was computed by summing the typical number consumed during each day of the week. Participants reported drinking a mean of 8.86 (8.81) drinks per week before their trips abroad.

Follow-up survey. At follow-up, the Daily Drinking Questionnaire was repeated to assess the typical number of drinks per week consumed while abroad during the prior 10 weeks of the study-abroad experience. Participants reported a mean of 10.67 (9.40) drinks per week while abroad.

Results

Descriptive norms predict drinking while abroad

The pre-abroad perceived norm was associated with pre-abroad intended drinks per week ($r = .46, p < .001$) and with

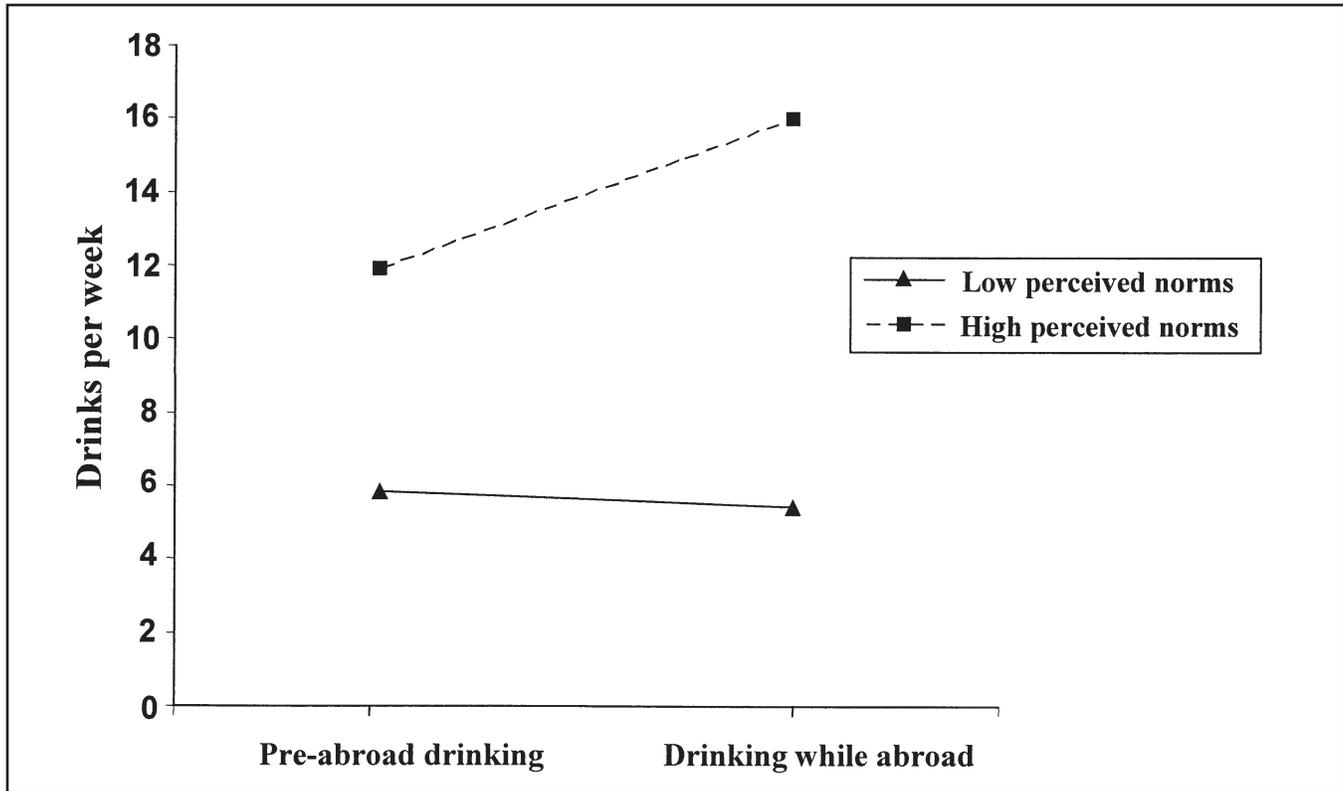


FIGURE 1. Changes in pre-abroad drinking to drinking while abroad as a function of pre-abroad perceived norms

drinks per week while abroad ($r = .57, p < .001$). The number of pre-abroad intended drinks per week also was moderately correlated with the number of actual drinks per week while abroad ($r = .66, p < .001$), suggesting that intended drinking was an important variable to include in the model predicting drinking while abroad. A hierarchical linear regression determined the impact that the pre-abroad perceived norm had on the number of drinks consumed per week while abroad. The number of pre-abroad intended drinks per week was entered at Step 1, and the pre-abroad perceived norm was entered at Step 2. The final model accounted for a substantial 51% of the variance in number of drinks per week while abroad. At Step 1, intended drinks significantly predicted drinks per week while abroad ($R^2 = .44; F = 40.99, 1/52 \text{ df}, p < .001; b [\text{SE}] = 0.70 (0.11); t = 6.40, 53 \text{ df}, p < .001$). Furthermore, Step 2 revealed that the pre-abroad perceived norm uniquely predicted drinking while abroad ($b = 2.51 [0.92]; t = 2.73, 53 \text{ df}, p < .01$), over and above intended drinking (change in $R^2 = .07; F = 7.44, 1/51 \text{ df}, p < .01$).

Changes in drinking vary as a function of the pre-abroad perceived norm

Using a repeated-measures analysis of covariance, we evaluated whether drinking significantly increased while studying abroad and whether changes in drinking varied as

a function of the pre-abroad perceived norm. Time (Time 1 = pre-abroad drinking, and Time 2 = drinking while abroad) was the repeated measure, and the pre-abroad perceived norm was the independent variable. The results revealed that, overall, drinking did not significantly increase from Time 1 to Time 2 ($F = 2.64, 1/47 \text{ df}, p = .11$). As hypothesized, however, there was a Time \times Perceived Norms interaction ($F = 4.14, 1/47 \text{ df}, p < .05$; partial $\eta^2 = .08$).

Figure 1 presents predicted cell means based on parameter estimates where high and low descriptive norms were specified as 1 SD above and below the mean, respectively (Aiken and West, 1991). Those students with a higher pre-abroad perceived norm experienced greater increases in drinking behavior while abroad than did those with a lower pre-abroad perceived norm. When the number of pre-abroad intended drinks per week was entered as an additional covariate, there was no significant Time \times Intended Drinks interaction, further confirming the unique impact of pre-abroad perceived norms on drinking while abroad.

Discussion

The present study examined the drinking behavior of study-abroad college students by looking at changes from pre-abroad drinking to drinking while abroad. In addition, we evaluated the impact that pre-abroad perceived drinking

norms had on drinking while abroad. Pre-abroad perceptions of study-abroad student behavior uniquely predicted drinking while abroad, even after how much students intended to drink before leaving for their trip was controlled for.

Although overall drinking did not significantly increase while abroad, those students with higher pre-abroad perceived norms of study-abroad student drinking increased their own drinking behavior—revealing the salient impact of perceived norms on drinking while studying abroad. Targeting general student misperceptions is an important component of many established interventions (Larimer and Cronce, 2007; Walters and Neighbors, 2005). If students perceive that other study-abroad students drink more heavily than they actually do, presenting students with accurate data on actual study-abroad drinking may allow them to form more informed pre-abroad perceptions and thus help prevent increased drinking. Future research examining the utility of presenting students with study-abroad student-specific drinking norms is needed.

This study is limited by its sample size, which hinders the generalizability and impact of the research results. Although 55% of the participants increased their drinking to some extent while abroad (with all participants increasing by an average of about two drinks per week), no significant difference was found for increases in drinking while abroad. Nevertheless, a small effect size for increased drinking was revealed ($d = 0.23$). For some students, increases could have led to alcohol-related problems or hazards resulting from drinking in a foreign country. Further research is needed, however, to determine the specific negative effects resulting from increased drinking while abroad.

The small sample size also does not allow for analyses of moderators that could influence drinking levels (such as gender, drinking motives, or region of study). Complications with retention also were evident. Although students may have had access to computers through their classes, Internet access may have been limited or accessible only for a monetary fee. Therefore, tangible incentives such as phone cards or Internet access cards may be helpful to reduce attrition in further work with these students.

Finally, the pre-abroad perceived norm was designed to assess study-abroad student-specific drinking. It is unclear, however, how this perception varied from general perceptions of typical college students, which have consistently been linked to heavier drinking.

Despite limitations, this study provides a preliminary look at drinking among study-abroad students and suggests that future research evaluating studying abroad as a potential high-risk event is warranted, as well as research investigating how perceived norms of study-abroad student-specific behavior differentially impact drinking among students studying abroad. Targeting perceptions during pre-abroad programs may have an influential effect on student study-abroad drinking rates.

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