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Preventing victimization among young women: The *SafeNights* intervention

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Abstract

Objective—We examined the effect of a brief intervention, titled *SafeNights*, to reduce victimization among young college-aged females.

Participants—A total of 1,048 women participated; 496 participants in the control and 552 in the experimental condition.

Method—Young Americans crossing the U.S. border to patronize Tijuana bars were randomly assigned to an intervention as they traveled into Tijuana. Upon returning to the United States, participants provided a breath sample and were interviewed.

Results—*SafeNights* was significantly associated with reductions in reported victimization independent of alcohol consumption.

Conclusions—The intervention will be refined for a broader spectrum of collegiate settings at high risk for heavy drinking and potential victimization.

Keywords

Alcohol; Victimization; Brief Intervention

Introduction

At least half of all sexual assault incidents among college students is associated with alcohol use (Abbey, Zawacki, & Buck, 2005). In the 1997, 1999, and 2001 College Alcohol Surveys, nearly three of four rapes involved victimized females who were too intoxicated to consent. In a Department of Justice report, Kilpatrick Resnick, Ruggiero, Conoscenti, and McCauley (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007) reported that, of the half-million college women reported to have been forcibly raped, 160,000 experienced drug-facilitated rape and more than 200,000 experienced alcohol-incapacitated rape. Violence against women remains a serious concern in the United States, with college-aged women the most frequent victims. An estimated half of college women in the United States have been sexually assaulted, and a quarter have been victims of rape or attempted rape (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001). Testa and Livingston (2009) reported that the highest risk of rape occurs between the ages of 16 and 19 years followed by ages 21 to 24 years. These ages of highest risk also coincide with the ages of highest drinking levels

(Wilsnack, Kristjanson, Wilsnack, & Crosby, 2006), so it is not surprising that alcohol use by the offender (Brecklin & Ullman, 2002), the victim (Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004; Testa, Livingston, Vanzile-Tamsen, & Frone, 2003), or both (Abbey, 2002; Horvath & Brown, 2006) has often been found to play a role in sexual assaults.

The risk of victimization can be particularly high in heavy drinking environments (Leonard, Quigley, & Collins, 2003; Quigley, Leonard, & Collins, 2003). One location where our group has conducted research for the past decade is Tijuana, Mexico. Tijuana, within walking distance of San Diego, California, is a geographically bounded space with a high density of bars serving young adults aged 18 and older. As a result, each weekend night, thousands of young Americans (many of them college students) cross the border into Tijuana to patronize the local bars (Lange, Lauer, & Voas, 1999; Lange & Voas, 2000). Over 10 years, PIRE used this border location as a natural laboratory to assess drinking behaviors and develop interventions (Johnson & Clapp, 2011; Lange, Reed, Johnson, & Voas, 2006). Here young Americans must funnel through the border's gates both when leaving and returning to the United States. This allows us ample time to approach participants before their nighttime activities and again on their return. The survey work established in this area has been identified as the "portal technique" (Kelley-Baker, Voas, Johnson, Furr-Holden, & Compton, 2007; Voas et al., 2006).

Information for the study was obtained from a baseline analysis of alcohol use and female victimization in Tijuana conducted in 2005 and 2006. Kelley-Baker et al. (2008) showed that 53% of the female visitors to Tijuana bars experienced some type of victimization (Kelley-Baker, et al., 2008) ranging from verbal abuse, to moderate physical assault, to serious sexual assault. So the need to develop strategies to reduce violence towards college-aged women in heavy drinking environments became more pressing.

Tijuana is associated with partying, drinking, and uncontrolled behavior. The alcohol- and violence-related problems observed around the alcohol-rich environment of Tijuana bars motivated us to develop a brief group-level intervention to help prevent female victimization. Interventions for reducing alcohol use and related problems, however, often differ in philosophy and strategy from brief interventions designed to reduce victimization. For example, interventions that address alcohol use largely focus on reducing the quantity of alcohol consumed and the problems directly related to alcohol use, such as overconsumption, emergency room visits, or drinking and driving (Borsari & Carey, 2005; Collins, Carey, & Sliwinski, 2002; LaBrie et al., 2008; Larimer & Cronce, 2002). Interventions to reduce victimization often focus on established relationships, such as marriages or dating couples, as the perpetrator is an individual known to the victim in about 90% of female rapes (Fisher, Cullen, & Turner, 2000). Additionally, most college-aged women traveling to Tijuana from San Diego do not do so alone, but with some companions. We therefore concluded that the prevention of victimization might be more amenable to a social group approach.

Many programs target social networks or peer groups to address risk behaviors. These networks influence the health of individual network members at the behavioral, psychological, and physiological levels (Academy for Educational Development [AED], 1997; Centers for Disease Control and Prevention, 2003; National Institutes of Health, 2001). Social Network Theory focuses on the social networks (of a particular group) as a unit of intervention to reduce risky behaviors (AED, 1997). College students are already aware of the value of looking out for one another and are intent on maintaining safety while drinking by staying together as a group and by monitoring group members' alcohol intake (Howard, Griffin, Boekeloo, Lake, & Bellows, 2007). The importance of peer support further is acknowledged through research into bystander intervention that includes

assessment of the bystander's relationship to a potential victim (Banyard, Moynihan, & Plante, 2007).

Several studies have recently examined bar characteristics to better develop environmental strategies to reduce violence at bars. Quigley, Leonard, and Collins (2003) found that violent bars were more likely to be reported as being smokier, warmer, dirtier, darker, more crowded, more likely to have competitive games, and more likely to employ bouncers and males. Buddie and Parks (2003) found that bars where violence occurred were often more tolerant of clients' displays of antinormative behavior, including sexual behavior and illegal activities (drug use, gambling).

Compelled by the documented need to curb violence in the alcohol-rich Tijuana-San Diego environment, we developed a brief group-level intervention, titled *SafeNights*, with the specific goal of communicating safety strategies to group members. The *SafeNights* intervention is based on the following theory-grounded elements: (a) promoting group responsibility, (b) raising environmental awareness, and (c) encouraging personal control of alcohol and drug use. Specific strategies aimed to promote safety were developed and promoted. These strategies were developed based on existing research and information gained from an initial prevalence study in the area (Kelley-Baker, et al., 2008) and on the guidance provided by the research cited herein. Clustered into three major components (group behavior, environmental cues, and individual strategies to avoid risky situations), these safety strategies were intended to prepare the group to think and talk about their plans for the night.

This article describes and evaluates the *SafeNights* intervention and administrative procedures. The specific research questions we addressed follow: (1) Do study participants use the safety strategies introduced through the intervention? (2) Does the intervention reduce alcohol use for the evening in Tijuana? (3) Does the intervention reduce victimization in Tijuana, as reported by study participants upon their return to the United States?

Methods

The overarching design strategy behind the *SafeNights* intervention grew out of the unique characteristic of the Tijuana-San Diego border, which requires that all American visitors to Tijuana bars pass the same spot twice before clearing customs at the border. The first time is early at night (i.e., before exiting the United States), and the second time is upon their return en route to San Diego. At the port of exit and re-entry, our research team (a) contacted groups of visitors before they entered Mexico, (b) delivered the intervention, and (c) re-contacted them for evaluation late at night when they returned to the United States.

This section is in two parts. The first part describes the procedures we applied to collect data and deliver the intervention: how the participant groups were selected, the baseline information (southbound survey) collected, the intervention delivered, and how the postintervention data (northbound survey) were collected. The second part describes the analytical strategy we applied to evaluate the intervention.

Procedures

Recruitment—Staff randomly approached groups of individuals as they approached the border to cross into Tijuana, Mexico, between 9 p.m. and midnight. Only groups with at least one female aged 25 or younger were eligible. Each group was randomly assigned either to the intervention or to the control condition. The incentive for participation was a \$20 gift card, which was given to all participants at the border as they returned (between midnight

and 5 a.m.) to California and completed the northbound interview. This approach to data collection is not new; it is based on the portal survey system (Kelley-Baker, et al., 2007; Lange, et al., 1999; Voas, et al., 2006), a methodology to gather information from bar patrons both before entering and after exiting from a drinking environment. A full description of the methods used are described in Kelley-Baker et al. (2008). All participants were informed that participation was voluntary and anonymous. Our procedures were approved by the PIRE Institutional Review Board.

Baseline Data Collection (Southbound Survey)—Before the intervention, all participants (in both the control and experimental conditions) on their way to Mexico completed self-administered surveys (which included items about the group composition as well as evening intentions) and agreed to take a blood alcohol concentration (BAC) tests. A handheld Intoxilyzer 400 was used to measure the BACs of the participants. The Intoxilyzer 400 provides an approximation of the amount of drinking. This device was programmed to withhold the BAC reading until the data were downloaded later, which ensured the privacy of the participants.

As part of the self-administered survey, we also collected demographic information, including age and race/ethnicity. More than three-quarters of the sample (78.2%) were aged 20 or younger, with the median age being 19 (mean age 19.6 for intervention subjects versus age 19.4 for controls, $p=0.03$). The majority (57.6%) of participants reported having Hispanic ethnicity, and most Hispanic respondents (88.3%) did not identify with any specific race. Less than one-fifth (18.2%) of the sample was White (non-Hispanic), and 12.6% was Black (non-Hispanic). Asian, Hawaiian/Pacific Islander, and Native American participants also were represented, but each accounted for less than 2% of the sample. The southbound distribution by race/ethnicity did not vary according to intervention assignment. In addition to the survey and BAC test which was collected on all participants, experimental group participants also received the *SafeNights* intervention and intervention checklist, as described hereafter.

Intervention—As mentioned, the *SafeNights* intervention builds group cohesion and creates a sense of group responsibility; the intended goal is to reduce alcohol consumption and to decrease victimization of young women. *SafeNights* (see Table 1) was delivered to the entire social group of males and females who were together for an evening, although the target audience was the women. Our research team presented 20 strategies intended to prepare the group to think and talk about their plans for the night. These safety strategies were clustered into three major components: promote group responsibility, raise environmental awareness, and encourage safe personal conduct to avoid risky situations.

In Component 1, group responsibility for everyone's safety was promoted. Two key strategies were emphasized: (a) ensuring that group stayed together throughout the night and returned to the United States together, and (b) establishing one person as the group leader who was willing to serve as the "social host." Responsibilities of the social host included (a) preferably abstaining from alcohol or drugs and if the host did not agree to abstain, then limiting consumption of alcohol; (b) ongoing monitoring of the environment and members of the group to ensure their safety, and (c) ensuring the group returned to the United States together. Having a social host was an important aspect of the intervention and emulated the designated-driver concept (Harvard School of Public Health, 2007) that helped to shift social norms regarding driving after drinking. To assist the social hosts with their responsibilities, the interviewer asked all the group members to discuss and agree on safety tactics the social host might apply, if necessary, to protect the group from threats to group cohesion and safety. For example, the group was asked to consider what techniques or actions the social host should use if a group member appeared to be uncomfortable or was being harassed.

Thus, the intervention motivated group members to think about potential threats and the use of appropriate safety strategies, such as using a check-in system, using the buddy system, and respecting other group members and their concerns. Although group members were not required to use all the suggested strategies, interviewers attempted to gain group consensus and to raise group awareness.

In Component 2, participants' awareness of the environment they were entering and the potential dangers they could encounter in certain environments was emphasized. Drawn from risk indicators identified in prior research, these messages included avoidance of bars where more deviant or problematic behavior occurs—for example, fights, excessive drinking—and where there were no signs of police or bar security.

In Component 3, participants were reminded of the importance of their own personal behavior and were encouraged to engage in safe behaviors. Specifically, participants were encouraged (a) to control their own drinking; (b) to refuse drinks from strangers; (c) to eschew behaviors that might suggest that they were willing to engage in tenuous activities, such as removing their clothes; and (d) to leave with the group with whom they arrived rather than leave with strangers.

Following the interviewer's presentation of the 20 safety strategies, each group selected a social host. After this task was accomplished, each participant completed a one-page survey (identified as the "southbound intervention checklist") to indicate which of the safety strategies reviewed by the interviewer they would personally follow for the evening. The intent of this approach was to give each participant the opportunity to review privately the strategies presented and to establish a plan for the evening that they felt was manageable.

At the conclusion of the intervention, study participants were reminded of the risks associated with heavy drinking. Each member of the group was given a pocket-sized card with a list of emergency phone numbers they could call if they needed help while in Mexico. The card also served as a reminder of the safety strategies that were discussed.

Postintervention Data (Northbound Survey)—For the northbound survey (i.e., when the groups re-entered the country), we collected information needed to evaluate the outcome of the intervention. This survey consisted of a face-to-face interview, a self-administered experiences survey for the night, a safety checklist (based on the *SafeNights* strategies), and a BAC test using the same handheld Intoxilyzer 400 that was used at southbound entry. The northbound distribution by age and BAC did not vary by intervention assignment, but Hispanics, more than non-Hispanics, in the experimental condition were more likely to respond to northbound exit surveys (Table 2).

At the northbound exit survey, each participant (control or experimental) was provided with the list of safety strategies (identical to those included on the southbound intervention checklist as part of the *SafeNights* intervention) and asked to indicate whether they used the strategy while in Tijuana. The experiences survey for males also asked about their views and expectations of women and their experiences with women that night. For females only, the northbound survey asked about negative experiences and victimization that night, the results from which are the primary focus of this study. This survey contained eight questions covering a variety of negative experiences: verbal aggression (someone insulted or swore at you, someone said something to make you feel unsafe), moderate violence (pushed, grabbed, or shoved), moderate sexual aggression (touched you in an unwanted way), severe violence (pushed, grabbed, hit, slammed against a wall), and severe sexual aggression (forced sex with threats or physical force). For the moderate violence and moderate sexual aggression items, women were also asked how the experience made them feel (not bothered,

annoyed, or scared/angry) and how they would describe the physical contact (light touch, full grab, or painful).

Analytical Approach

Our analyses focused on whether the likelihood of alcohol use and victimization varied as a function of the intervention. However, because whole peer-groups were recruited for our study (i.e., we sampled groups, not individual participants), the statistical assumption of independent observations is not tenable. Consequently, relying on straightforward regression and logistical regression analyses likely would inflate our risk of a Type I error. To accommodate this and to ensure unbiased statistical tests, all tests of hypotheses were conducted using generalized estimation equations in STATA 9.0, with “peer-group” included as a random variable. Because a two-tailed test of the intervention effectiveness for reported victimization may have been too stringent, we report significant *p*-values assuming a one-tailed test at the 95% confidence level in this paper (thus, we interpreted the analysis assuming $\alpha = .10$ with the condition that results were in the predicted direction). Other covariates in our models (demographic controls and exit BAC) are examined using a two-tailed test.

The key variables in this research consisted of entry and exit BACs, whether the participant group was assigned to the intervention or control condition, and whether individual group members had negative experiences while in Tijuana. We measured five types of negative experiences separately—verbal aggression, moderate violence, moderate sexual aggression, severe violence, and severe sexual aggression—as well as an aggregate variable concerning whether participants experienced *any* of these five types of aggression.

Results

Participation

Data were collected from November 2006 to December 2008. The southbound entry sample was comprised of 1,345 women aged 16 to 25 representing 189 groups (653 female participants) that participated in the control condition, and 181 groups (692 female participants) that participated in the experimental condition. More than three-quarters (1,048) of the female pretest participants (77.9%) returned and provided sufficient information during the northbound exit survey to indicate whether they experienced any type of victimization while in Tijuana. Of the northbound sample, 1,030 (98%) provided a posttest breath sample for measuring their BACs. Participants without valid posttest BAC readings were retained because not all analyses included BAC as a variable. The northbound sample (baseline participants who provided victimization data posttest) included 139 groups (496 female participants) in the control condition, and 147 groups (552 female participants) in the experimental condition, for a follow-up rate by group of 74% and 81%, respectively.

Effect of Intervention on Employing Safety Strategies

In investigating the efficacy of our intervention, we first sought to ascertain whether the 20 safety strategies introduced through the intervention were used by the study participants during their Tijuana visit. For virtually all strategies, we found that experimental participants were significantly more likely to report use of a safety strategy than control group members (see Table 3). The only strategy that was not as prevalent within the experimental group was “stay with my group and return to the United States as a group,” for which both experimental and control participants reported very high rates (93.6% and 91.2% respectively). Further, the total number of strategies used was significantly higher for experimental subjects versus control subjects, for the full sample as well as within age groups (aged 20 and younger, and aged 21 and older). We also examined whether the

likelihood of reported victimization varied with the absolute number of safety strategies used to determine if there were evidence of a dose-response protective relationship resulting from the use of more safety strategies. We did not find significance in a test of the dose-response relationship, however.

Effect of Intervention on Alcohol Use

Our participants entered Tijuana with a mean BAC of .006 and returned to the United States with a mean BAC of .049, with no significant difference between the experimental and the control group's posttest BACs. Although most (83.2%) participants entered Tijuana with no measurable alcohol (BAC<.01), a much smaller percentage exited with no measurable alcohol use (38.8%). Likewise, the percentage of the sample that was legally intoxicated increased dramatically during the nighttime. At entrance, 1.8% of the sample was measured at a BAC of .08 or higher (the state's adult legal rate of intoxication), and slightly more than a quarter (26.8%) returned to California with a BAC of .08 or higher.

One of our research questions was whether the intervention affected drinking behavior (as measured by northbound exit BACs) of young female participants. An initial model of demographics revealed statistically significant main effects of race/ethnicity (White non-Hispanic, $\beta=0.014$, $p=0.001$; Black non-Hispanic, $\beta=-0.015$, $p=0.001$). White non-Hispanic women had significantly higher BACs (.066) than Black non-Hispanic women (.036), and women self-identified as "Other" non-Hispanic (.041) or Hispanic (.049). The main effect of age was not significant ($\beta=-0.007$, $p=0.066$). When we looked at drinking levels by age, however, we found that BACs for women aged 20 and younger were higher (estimated mean = .051) than for women aged 21 to 25 (.045). Finally, the association between entry BACs and exit BACs was positive and strong ($\beta=0.90$, $p < 0.001$). When the intervention variable was added to the model, however, we failed to find any statistically significant effect beyond these demographic control variables. Thus, the intervention did not affect the level of drinking among women in the experimental group.

Victimization

Our first analyses focused on whether the likelihood of experiencing any victimization varied as a function of the intervention when controlling for other important personal characteristics. Our initial analysis examined each participant by age (20 or younger and 21 or older), race/ethnicity, and northbound exit BAC, revealing significant differences based on race and ethnicity. Even controlling for these important personal characteristics, the intervention significantly reduced the rates of any victimization (Wald $\chi^2(7) = 22.68$, $p=0.039$ (OR=0.76). The odds of women in our sample reporting any type of victimization were significantly lower for participants in the experimental group (model estimated proportion = 0.37) than for those in the control group (0.44).

Non-Hispanic Whites faced higher odds of experiencing victimization while in Tijuana than did Hispanics (OR=2.14, $p<0.001$) and non-Hispanic Blacks (OR=2.01, $p=0.012$) (Table 4). Respondents of Other race/ethnicity reported victimization at similar rates to non-Hispanic Whites. Age was neither significant as a main effect nor in interaction with the intervention variable. Finally, exit BACs were not related to reports of victimization.

Next, we examined specific types of victimization, excluding reports of severe physical or sexual victimization because of the low incidence of these experiences (2.2% and 1.9%, respectively). We began by examining *verbal aggression* reported by 14.1% of the study participants in Tijuana. Our test of the intervention in the full sample (after controlling for demographics and exit BACs) failed to find statistically significant differences, although the trends were in the expected direction (Wald $\chi^2(7) = 22.12$, $p=0.19$ (OR=0.77).

Just over one-fifth (21.8%) of the participants reported experiencing *moderate violence* while in Tijuana. Our tests of the intervention failed to find statistically significant differences in the odds of reporting moderate violence (Wald $\chi^2(7) = 7.57, p=0.53$ (OR=0.88), controlling for demographics and exit BACs.

More than a quarter (28.0%) of the participants experienced *moderate sexual aggression*. Our test of the intervention revealed a main effect (Wald $\chi^2(7) = 29.39, p=0.072$ (OR=0.74). The odds of women younger than age 21 reporting moderate sexual victimization were significantly lower when they received the intervention (model estimated proportion = .224) than when they did not receive the intervention (.289).

Discussion

Overall, participating in the intervention was associated with a significantly lower rate of reported victimization for the young women in our study. Our findings might be conservative because 22% of the female pretest participants were not captured in the posttest (based on the northbound survey). There are plausible explanations for why victimization would either hasten an individual's decision to leave Tijuana or to delay a return, and this study does not provide the data to ascertain the victimization status of the respondents missing at the northbound exit survey. Nevertheless, in sensitivity analyses, we examined the extreme assumptions that all "nonreturnees" were victimized in Tijuana and that none of the nonreturnees were victimized. Assuming that all nonreturnees were victimized, the multivariate models still estimated a significant effect of the intervention in reducing reports of victimization.

Regarding the preferred mechanism through which this intervention may have achieved the successful reduction in victimization reports, we found that the experimental group was more likely to report using 19 of the 20 safety strategies and, overall, reported use of more of the safety strategies than the control group. Interestingly, when the alcohol-use intervention variable was added to the model, we failed to find any statistically significant effects of the intervention on alcohol consumption. The intervention did not reduce the alcohol use by participants, and the level of alcohol use did not affect victimization rates. This finding seems to suggest that victimization is not as related to the drinking patterns of victims as the literature and we had expected, at least not in this context.

The reason for this somehow surprising finding might be particular to the environment surrounding the visit to Tijuana bars by young Americans. The main reason for these young Americans to visit Tijuana is to drink, and drink heavily, in an alcohol-permissive environment (Lange & Voas, 2000). The generalized fulfillment of this drinking objective by the bar visitors may have hidden the significance of alcohol as a contributor to victimization. In other words, we argue that the lack of significance of the drinking patterns we found does not negate the importance of alcohol as a contributor to interpersonal violence in general. Rather, it may show that interpersonal violence may not be as related to alcohol in heavy drinking environments as it is in lighter drinking environments. This intriguing possibility merits further research, for a logical consequence of this assertion is that, if true, then interventions aimed to promote women's safety when visiting bars should differ sharply depending on the nature of the bar visit. Our findings suggest that to be successful, interventions that promote women's safety should vary for different situations. For example, the situation reviewed herein where the overwhelming objective of the bar visit was to experience alcohol impairment would differ from cases in which a bar visit involves other equally important reasons.

Although intriguing, our argument is highly speculative. An alternative explanation of our findings is that respondents with higher BACs may be less likely to recall a negative experience and thus did not report being victimized, or respondents who had higher BACs may be less likely to perceive negative experiences as occurring. Nevertheless, we believe that the findings of this study are intriguing enough to merit further research on this topic.

Limitations and Conclusions

There are limitations derived from the use of self-reported data that could be biasing the findings of our analyses. Younger participants reported using more safety strategies than older participants (21 or older). Members of the younger group, however, may have overreported their actual use of the strategies. Further, because the experimental group was aware of the intent of the intervention, they may have more frequently misrepresented and underreported victimization due to guilty feelings about failing to support the success of the intervention. Finally, there is the risk of reverse causality: victimization experiences could have led to greater endorsement of safety strategies as a post hoc rationalization of having done all she could to avoid the negative experience. Particularly for the control group participants, who are first introduced to the safety strategies posttest, individuals may have attempted to map strategies onto their evening experience to justify having done all they could to avoid unwanted negative experiences. Use of a dummy intervention to confirm the validity of findings of the therapeutic intervention may be warranted in further study.

Despite these limitations, the results of this study are important inputs to preventing victimization of young, college-aged women in alcohol-rich environments. The *SafeNights* intervention is a relatively short intervention that appears to increase young women's awareness and use of safety strategies to prevent victimization. To avoid problems before they arise, the *SafeNights* intervention encourages participants to assess environmental risks and to remain cognizant of their social group's behaviors and needs. This study provides evidence that group members can assume responsibility for one another and provide protective support in dangerous situations.

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Table 1

Intervention Activities

Component	Activity	Time
Component 1	Promote <i>group</i> responsibility and establish safety plans.	4–5 min
Component 2	Raise <i>environmental</i> awareness.	2–3 min
Component 3	Encourage safe <i>personal</i> conduct.	1–2 min
Closure	Reminded of potential risks for being in a foreign county. Distribute to group members emergency contact information.	15–30 sec

Table 2

Characteristics of Study Sample (Females 16–25, Posttest Northbound)

	Experimental	Control	Total
	n=552	1,048	100%
	53%	47%	
Age:			
% 16–20 (under U.S. legal drinking age)	416	393	809 77.2
% 21–25 (legal to drink in U.S.)	136	103	239 22.8
Race/Ethnicity:			
Hispanic	346	268	614 58.6
White, non-Hispanic	86	96	182 17.4
Black, non-Hispanic	55	75	130 12.4
Other, non-Hispanic	65	57	122 11.6
Posttest BAC:			
No or minimal alcohol (BAC 0–.009)	205	202	407 39.5
Moderate alcohol (BAC 0.01–.079)	181	161	342 33.2
Legally drunk (BAC 0.08+)	156	125	281 27.3

Table 3

Proportion of Sample Reporting Use of a Safety Strategy

	Experimental	Control	Odds ratio*
	N=1048	53%	47%
Group:			
Stay with my group and return to the U.S. as a group	93.6	91.2	1.4
Do not separate from my group	75.6	64.0	1.7
Use the “buddy system” on the dance floor and for bathroom visits	86.7	78.2	1.8
Check in with my group throughout the evening ^a	96.2	92.0	2.2
Use hand signals to help communicate with my group ^a	86.0	74.2	2.1
Respect other’s concerns and leave if anyone feels unsafe ^a	41.6	23.9	2.3
Tell group members who drank too much to stop drinking ^a	46.0	28.8	2.1
Establish someone to be the group leader	89.3	72.8	3.1
Mean number of group safety strategies used	6.0	5.0	
Environmental:			
Avoid places where people are fighting ^a	53.6	32.0	2.5
Avoid places with no visible security ^a	54.7	30.0	2.8
Avoid places with drink specials (drink too fast) ^a	49.8	39.0	1.6
Avoid places where most people are out of control ^a	51.8	36.2	1.9
Avoid places where people are encouraged to strip ^a	46.7	32.2	1.8
Avoid places with drinking activities (e.g., body shots) ^a	44.7	26.0	2.3
Mean number of environmental safety strategies used	2.7	1.7	
Individual:			
Don’t accept open drinks	73.9	58.9	2.0
Limit alcohol consumption	83.0	76.4	1.5
Don’t sexually mislead anyone	74.7	64.5	1.6
Do not strip	76.5	66.8	1.6
Do not leave with strangers	75.6	65.6	1.6
Do not drive after drinking alcohol	76.2	67.6	1.5
Mean number of individual safety strategies used	4.6	3.9	
Mean total number of safety strategies used	13.2	10.6	

* The odds ratio of the experimental group using each safety strategy is significant for each strategy at the $p < 0.01$ level, except for the first group strategy “Stay with my group...” Likewise, the mean number of safety strategies used per component is significantly higher for the experimental group ($p < 0.000$).

^aFor questions that allowed “n/a” as an option, those respondents were considered “missing” in this report of the proportion of each group who endorsed each strategy. Tests of significance do not vary when n/a responses are included.

Table 4

Multivariate Models of Female Victimization by Intervention Status

	<u>Any victimization</u>	<u>Verbal victimization</u>	<u>Moderate physical victimization</u>	<u>Moderate sexual victimization</u>
N=1,030				
Intervention ^a	0.76*	0.77	0.88	0.74*
Posttest BAC (ref: BAC<0.009)				
Moderate alcohol (BAC 0.01–.079)	0.81	1.15	0.87	1.22
Legally drunk (BAC 0.08+)	0.90	1.23	0.77	1.22
Age Group				
Under age 21	1.17	1.26	1.00	1.04
Race/Ethnicity (ref: Hispanics)				
White, non-Hispanic	2.14***	2.50***	1.51	2.62***
Black, non-Hispanic	1.06	0.95	0.97	1.38
Other, non-Hispanic	1.59*	1.23	1.72*	1.71*
Wald χ^2 (7 degrees of freedom)	22.68	22.12	7.57	29.39

^aThe test of the intervention assumes a one-tailed test, whereas other covariates are tested using a two-tailed test. All estimates are odds ratios.

*
 $p < 0.05$,

**
 $p < 0.01$,

 $p < 0.001$.