

## **DEVELOPING, IMPLEMENTING, AND EVALUATING INNOVATIVE SORORITY SUBSTANCE ABUSE PREVENTION IN THE EVIDENCE-BASED ERA**

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*This article describes the development, implementation, and evaluation of a pilot, multi-faceted, and multi-session alcohol abuse prevention program conducted in conjunction with two sorority chapters. The process and product of the pilot program are illustrative of the use of theory and evidence-based practices in the creation of innovative substance abuse prevention efforts among fraternal organizations within higher education. Findings point to practical implementation challenges and to promising evidence of program impact. Recommendations inform practitioners in implementing evidence-based practices with fraternal chapters.*

Despite the best efforts of fraternities and sororities and their advisors, the image of alcohol use as a core component of the fraternal experience pervades in higher education (Workman, 2001). Increasingly, targeted interventions show promise in addressing the short-term harm associated with heavy college student alcohol use, and a few studies suggest brief interventions can help enact lasting changes in use among college students (Hunter & Mazurek, 2004; LaBrie, Pedersen, Lamb, & Quinlan, 2007; Larimer et al., 2001; Larimer, Kilmer & Lee, 2005; McNally & Palfai, 2003). Problematic for leaders interested in addressing alcohol abuse among fraternity and sorority members are persistent cultures that cede social status to those who abuse alcohol (Cashin, Presley, & Meilman, 1998; Kuh & Arnold, 1993; Plucker & Teed, 2004; Thombs & Briddick, 2000). This article reports on the development, implementation, and evaluation of a pilot program intended to alter individual use and the culture of alcohol consumption among sorority chapters on two different campuses.

The description of fraternity and sorority affiliated students as heavy alcohol users is portrayed throughout the media and supported by empirical inquiry (Caudill et al., 2006; Presley, Meilman, & Leichliter, 2002; Wechsler, Kuh, & Davenport, 1996; Workman, 2001). In a review of literature on fraternity drinking, Borsari and Carey (1999) found that members self-select into heavy drinking cultures, alcohol remains central to fraternity socialization, and fraternal environments support use and abuse. Indeed, recent research suggests that chapter consumption expectations are strongly predictive of consumption behavior, indicating strong social orientation of members (Trockel, Wall, Williams, & Reis, in press). A comprehensive study of 98 chapters of one national fraternity found that 97% reported being drinkers, and 83% met the criteria for heavy drinking (Caudill et al., 2006). This recent empirical work reinforces the existing images of fraternal organizations as pervasive cultures of alcohol use.

Fraternal organizations, as well as higher education institutions and student affairs leaders, should utilize prevention programs that are theory driven and validated by meaningful outcomes assessment (Larimer et al., 2005). Unfortunately, while the existence of alcohol and other drug programs is prevalent on many campuses, the evidence of the efficacy of these efforts is limited (Licciardone, 2003; Werch, Pappas, & Castellon-Vogel, 1996). Larimer and colleagues (2005) pointed to a series of promising strategies for college alcohol abuse prevention in their review of individually-oriented prevention programs. They specifically noted: (1) cognitive-behavioral skills training that includes norms clarification and motivational elements; (2) brief motivational enhancement interventions; and (3) social norming programs that challenge alcohol expectancies. Each of these program options has been evaluated in programmatic form and found to be useful among college students. Brief motivational enhancement and cognitive-behavioral skills training have proven specifically effective among fraternal organization members (Larimer et al., 2000).

A major limitation of the aforementioned interventions is the limited focus on individuals as opposed to environmental factors contributing to a culture of alcohol use. Efforts to shift policy or implement multi-faceted prevention programs on college campuses are difficult to apply and evaluate (Larimer et al., 2005). As such, multi-faceted programs show mixed empirical evidence of support (Larimer et al., 2005; Weitzman, Tobin, Lee, & Wechsler, 2004). This article describes and evaluates a multi-faceted effort to alter individual behavior and the culture of alcohol use among sorority members.

### **Project Need**

A campus imperative to proactively address fraternity and sorority member alcohol use is challenged by the lack of clear program and policy efforts that are broadly and effectively implemented (Licciardone, 2003; Mitchell, Toomey, & Erikson, 2005; Werch et al., 1996). Digesting and then operationalizing the emerging literature on cognitive-behavior strategies, brief interventions, and expectancies challenges is taxing for researchers, let alone practitioners for whom alcohol education is only a fraction of their job responsibilities (Wall, 2005). The need to have programs theoretically grounded, as well as soundly implemented and evaluated, can be prohibitive, even to those with the best of intentions. This pilot project sought to work with modest resources to develop, implement, and evaluate a multi-dimensional alcohol abuse prevention program with sorority members.

The pilot effort, titled "Culture Shift," is an example of utilizing existing research in an innovative and practical manner. The program was designed to be substantive and palatable for students. The project is an example of both process and product: (1) a process example in the project's development, implementation, and evaluation; and (2) a product example in terms of likely or probable program impact as evaluated using a basic quasi-experimental outcome evaluation design. The findings highlight the challenges and opportunities associated with implementing theory to practice, implementing good basic programming, and conducting evaluation in applied settings with modest resources.

### **Theoretical Framework**

The Culture Shift program was grounded in social cognitive and social network theory. From a social cognitive perspective, Bandura (1977, 1986) describes how self and collective efficacies are important to individual and group feelings about the ability to accomplish a particular task. Social cognitive theory points to five different mechanisms for advancing self and collective efficacy, noting that mastery experiences remain the most powerful mechanisms for developing self and collective efficacy. Mastery experiences related to setting goals, performing service, and setting alcohol consumption limits were part of the core elements of this program development.

The second conceptual framework utilized in Culture Shift centered around the cognitive-behavioral, norm clarification, and motivational approaches to the prevention of alcohol abuse (Bertkowitz, 2005; Larimer & Cronce, 2002). The cognitive-behavioral approach works to reframe thinking about alcohol use and then build individual skills related to alcohol consumption. Specific peer group data was presented to challenge past thinking and norms related to the safety of high alcohol consumption. Individuals were challenged with the task of examining harmful behaviors they felt should be prevented. Finally, researchers discussed strategies and policies for motivating the adoption and practice in their chapters' social environment.

Third, the Culture Shift program worked to tap into the strong social network that is a part of the collegiate fraternal experience (Borsari & Carey, 1999; Trockel, Williams, & Reis, 2003; Trockel et al., in press). Researchers targeted second-hand consequences of alcohol consumption in the pilot program implementation (Trockel, Wall, & Reis, 2002; Reis, Trockel, & Wall, 2003). The social networks of fraternal organizations compose an environment that limits the negative consequences of consumption due to the bonds of friendship that are a stated core value (Trockel et al., 2003).

The pilot program answered three critical questions: (1) Does the current pilot intervention design have efficacy in preventing alcohol abuse and related behaviors?; (2) How can the program be improved to have better efficacy?; and (3) Can the current intervention design be replicated and institutionalized throughout an inter/national women's organization?

### **Method**

Implementation of the Culture Shift program was conducted with two sorority chapters. Chapter A consisted of approximately 100 members at a public research university in the Midwestern United States. Chapter B consisted of approximately 70 members at a selective private research university campus also in the Midwestern United States. In each setting, a focus group was conducted prior to program implementation to explore organizational culture. Information from the focus groups was used to guide program development and implementation at each site. In addition to the focus group, facilitators met on several occasions with chapter leaders to outline the purpose for the project, set a program schedule, and develop a relationship with organizational leaders. Two sets of facilitators delivered the program at the two intervention institutions. Different facilitators were necessary for logistical reasons. Chapter C, the

comparison group of this study, was a chapter with approximately 85 members at a selective private liberal arts university in the Midwestern United States.

The program evaluation utilized a pre- and post-test comparison group design. Prior to program implementation, a researcher-developed survey instrument was administered to members at regularly scheduled chapter meetings at Chapters A, B, and C. Previous analysis of the survey instrument using exploratory and confirmatory factor analysis established the validity of the measures of the instrument including self-reported use, behavior, individual and peer expectations, second-hand consequences, perceived desire to prevent negative consequences of alcohol use, self-efficacy, and collective efficacy (Trockel et al., 2003; Trockel et al., in press). Chapter A and Chapter B served as intervention chapters, while Chapter C was the comparison group. Post-test data was collected after completion of the final program session at Chapter A and Chapter B, and from Chapter C at the end of the academic semester.

The final evaluation element included a researcher-developed process evaluation tool where chapter members rated satisfaction and participation in the program to depict how the program was delivered and received by participants. The process evaluation instrument was given at intervention chapters only. The process evaluation information was used to critically examine how to improve the pilot program. Table 1 outlines program and evaluation elements, delivery sequence, participation, and element description.

### **The Cultural Shift Program**

The conceptual underpinnings of the program were operationalized through five elements, including three group meetings with instruction and discussion, and two activities organized by the sorority members (see Table 1). The first session of the program centered on members exploring their personal and organizational values, roles, and actions. The intention of this session was to engage participants in the program and to discuss how alcohol use fits with individual and collective organizational values. At the end of this session, individuals were paired and asked to develop goals for limiting their personal alcohol consumption until the next meeting.

The second core program element was a session focused on understanding the negative impact of alcohol consumption on others. Normative data from sorority member pre-tests was described and used as a springboard for discussion about members' interest in reducing negative alcohol consequences in their chapters. This session included follow-up on members' individual consumption limit goals from the previous meeting and setting new behavior limits related to personal alcohol consumption until the third meeting.

The third meeting period connected individual and collective values. Community service was specifically utilized as a discussion point for how the chapter can put their values and beliefs into action. Plans were solidified for a chapter service project and individuals were challenged to set new two-week alcohol consumption limit goals.

The fourth core program element was also a chapter activity. Each chapter planned a social event, which incorporated alcohol limits. Alcohol limits refer to members identifying and documenting drinking consumption intentions and limits prior to each event.

The fifth program element was a meeting with elected leaders of each chapter to discuss policy efforts to reduce the risk of alcohol use among members. This meeting focused on the leaders developing a statement for the organization that calls for responsibility. Informal and formal notions of policy were introduced and discussed to try to close the gap between formal organizational policy and the operational definition of how the chapter approaches alcohol use.

## **Results**

### **Program Outcome Evaluation**

Data from the pre- and post-tests were entered into SPSS v. 14 for Windows and analyzed descriptively using *t*-test analysis. Analysis examined the pre- to post-test changes comparing valid intervention (Chapter A) with comparison group (Chapter C) responses. Chapter B was not included in the pre to post-test analysis as the chapter did not complete the post-test (See Table 1). On average, intervention program participants in Chapter A decreased alcohol consumption slightly during the time between pre- and post-test administration, while comparison respondents increased alcohol consumption slightly. These differences were similar across all measures of change in alcohol use, including the following: (1) change in number of drinks consumed during a typical week; (2) the number of drinks consumed during the week before post-test data collection compared to the number of drinks consumed during the week before pre-test data collection; and (3) the largest number of drinks consumed at one time during the two weeks preceding post-test administration compared to the largest number of drinks consumed at one time during the two weeks preceding pre-test administration. In addition, intervention group participants experienced an increased perception of the impact of secondhand consequences, while comparison group participants experienced a decrease in the perception of secondhand consequences.

### ***Changes in Self-Reported Alcohol Measures***

Differences between intervention and comparison group respondents' change in alcohol consumption, measured by comparing number of drinks consumed during the one week previous to both data collection points, approached statistical significance,  $t(64) = 1.50, p = .07$ . Intervention group respondents, on average, reported drinking 2.3 drinks fewer during the week before follow-up versus the week prior to the baseline assessment, while comparison group participants consumed an average of 0.6 drinks more during the week before post-test than during the week before pre-test data collection.

The difference between intervention and comparison group respondents' change in alcohol use, measured by post-test versus pre-test reported number of drinks consumed during a typical week, also approached statistical significance,  $t(65) = 1.34, p = .093$ . Intervention group respondents, on average, reported drinking 1.3 fewer drinks during weeks at follow-up than at baseline. In contrast, comparison group respondents reported drinking 1.0 more drinks during weeks at follow-up than at baseline. The sample average reported alcohol consumption was 15.3 drinks per week at baseline, and 13.3 drinks during the week previous to data collection. These

descriptive statistics suggest program impact on participants' alcohol use was in the anticipated direction, but modest in magnitude. The finding that change in alcohol use was in the desired direction following the pilot study intervention is encouraging.

Perhaps even more encouraging is that participants' intent regarding future alcohol consumption trended toward statistical significance when contrasted to the comparison respondents,  $t(47) = 1.73, p = .045$ . As with measures of current alcohol behavior, the impact on participants' intended future behavior was modest but encouraging.

### ***Measure of Second-Hand Consequences of Alcohol Use***

The only direct alcohol education module of the intervention focused primarily on second-hand consequences of alcohol use. Examples of second-hand consequences include sexual assault, person-to-person violence, and residential disturbances. As expected, second-hand consequence expectancies were favorably impacted by participation in the intervention. Each second-hand consequence expectancy item was measured via participants' rating of the likelihood of a specific second-hand consequence occurring when alcohol is used heavily, multiplied by their rating of the importance of preventing its occurrence in their chapter. Each respondent's average response on all individual item scores was calculated to derive scale scores used as the measure of participants' second-hand consequence expectancies for subsequent analysis. Factor analysis and internal consistency reliability estimates suggest the scale has reasonable reliability and (to the extent assessable with a single measurement method) reasonable construct validity (Trockel et al., in press).

Among intervention group participants, second-hand consequence expectancies increased between pre- and post-test data collection. Among comparison group respondents, second-hand consequence decreased. The difference between intervention and comparison group change in second-hand consequence expectancies over time was statistically significant,  $t(62) = 2.11, p = .02$ .

No other measured benefits of program participation were statistically significant. Of particular note was the lack of program effect on measures of self efficacy and collective efficacy. Several intervention components were aimed at increasing participants' self efficacy in areas of service and academic performance. Qualitative feedback from participants on the value of individual modules further underscores the lack of utility of some of these intervention components as they were designed and delivered during the pilot program. To some, the overall program was viewed as just an overly-long alcohol education program, while others reported greater satisfaction with the program content.

As program materials instructed, Chapter A did create a positive chapter mission statement, and a promising chapter alcohol misuse prevention statement following the third program meeting. The value of education on second-hand consequences was most observable in support for formal chapter policy and informal chapter standards – as reflected by the chapter statement. Study of longer term changes in support for policy and for changes in chapter culture reflected through informal chapter policy, standards, and other communication required follow-up time beyond that available for the pilot study. The post-test measure was administered only days after the chapter alcohol use standards development exercise took place.

**Table 1**  
**Program by Participation and Element**

<b>Program Element</b>	<b>Chapter A</b>	<b>Chapter B</b>	<b>Chapter C</b>	<b>Description and Underlying Theory</b>
Pre-Test	73	52	70	Paper and pencil survey focused on attitudes, beliefs, and behavior of members related to alcohol.
Session One	45	32	Comparison	Presentation related to assessing one's values and life roles, followed by individual goal setting. Session guided by social cognitive theory.
Session Two	38	30	Comparison	Presentation related to the consequences of alcohol use for self and others (significant focus on consequences to others). Support for prevention efforts and continued individual goal setting solicited. Session guided by social cognitive and network theory and research on second-hand consequences.
Session Three	31	29	Comparison	Presentation (in conjunction with chapter leaders) that included a review of goal-setting efforts; depicted the positive relationship between best organizational values and service; and showed that high alcohol use does not conform to the aspired organizational values. Creation of chapter mission and vision statements. Session guided by social cognitive theory.
Social Activity	100	~10	Comparison	Chapter planned social event where members adhered to a self-determined alcohol limit. Guided by idea of group mastery experience of social cognitive theory.
Volunteer Activity	Rained Out	~15	Comparison	Chapter planned service activity. Session guided by idea of group mastery experience of social cognitive theory.
Session Four	12	~9	Comparison	Policy review conducted by chapter executive officers. Session guided by social network theory idea of group norm setting.
Process Evaluation	52	29	Comparison	Paper and pencil survey with questions about each session of the program. General feedback about facilitators and overall impressions were also collected.
Post-Test	52	NC	36	Paper and pencil survey of attitudes, beliefs, and behavior of members related to alcohol (identical to pre-test).
Pre and Post Matches	43	NC	22	

NC = Not Completed

*Process Evaluation Results: Lessons Learned in Implementation*

The process evaluation summary presented in Table 2 represents feedback from presenters at Chapters A and B, as well as written and verbal comments from members who participated at both campuses. All feedback from written transcripts was examined and organized by two separate researchers; first by theme, then by session, and finally by overall themes. The two data reviews were combined and reconciled in an iterative fashion following individual analysis.

**Table 2**  
**Process Evaluation Summary**

<b>Program Element</b>	<b>Findings</b>
Pre-Test	Instrument was long, and while well received, would be a concern for broad implementation completion.
Session One	Session described as well received at both sites; content related to values clarification was characterized as useful. Goal setting was completed, but described follow through was limited.
Session Two	Session described positively at Chapter A, but not well received at Chapter B in part due to logistical challenges and to what students described as lack of comfort of the facilitators with the information on consequences of alcohol use.
Session Three	Session to connect service, group values, and goal setting, along with setting up social event was positively described, but ran short of time in both sites. Time was needed by both chapters to fully facilitate service and social activities.
Social Activity	Activities selected did not push women to challenge themselves to not consume in typical high alcohol consumption environments, as they selected social events where alcohol was not typically present. Both groups were successful in completing their selected alcohol alternative events.
Volunteer Activity	Logistical challenges (rain) impacted one group's plans. The other group was very successful in completing service projects in the community.
Process Evaluation	Written feedback was honest and often quite direct (i.e., when someone or something was not positively received, comments reflected it). Process feedback was collected once. Feedback opportunities should be offered following each session.
Post-Test	There were significant problems at two sites in getting post-test responses at the end of the academic year. End of the year survey administration must be reconsidered.

Process evaluation elements indicate the program was generally well-received, but that there were important differences in the perception of individual program elements. Items positively described by participants included the session focused on individual and chapter values clarification, the setting of consumption limit goals, and the group alcohol-free service and social activities. Elements less positively regarded included the session on second-hand consequences, follow-up of consumption limit goal setting, and the implementation of service and social activities. The program elements enjoyed most by participants also reflected elements with which participants felt the most comfortable (i.e. reflected on chapter values, goal setting, planning activities). Sessions that challenged participants the most directly, be it to fit alcohol



free activities into their busy lives or challenging their current behavior patterns, received less positive feedback.

Important overall themes that emerged from the implementation evaluation elements included: the need to engage chapter leadership in program implementation; facilitator follow-up being essential to successful program delivery; significant program engagement for students and facilitators; the need for normative alcohol feedback information to be locally salient; and the implementation setting inside sorority houses as a barrier to success. Each of these findings points to the practical challenges of implementing alcohol abuse prevention programs with fraternal organizations. In particular, the intensity of engagement required to deliver a multi-faceted and multi-session program is of note. For both facilitators and chapter leaders the commitment to engage in a multi-session effort is a scheduling, energy, and organization challenge. The typical format for alcohol efforts has not been multi-faceted or multi-session, but rather single time meetings or events. It is a cultural change for students or professionals to participate in sustained alcohol abuse prevention efforts.

### **Recommendations and Discussion**

Recommendations are based on the answers to three critical questions: (1) Does the current pilot intervention design have efficacy in preventing alcohol abuse and related behaviors?; (2) How can the program be improved to have better efficacy?; and (3) Can the current intervention design be replicated and institutionalized throughout a women's inter/national organization? The intervention as implemented worked on two concurrent levels where activities functioned to impact (1) individuals through cognitive skills training and presentation of information on second-hand consequences of alcohol use, and (2) the organization through change in chapter social culture. Table 4 reflects study recommendations organized around individual level determinants of alcohol use; chapter social culture determinants of alcohol use; and organizational considerations for development of effective and sustainable interventions.

Results of the evaluation indicate that the current intervention design has efficacy in preventing individual alcohol use and associated problem behavior. Individual focused elements of the program included raising awareness of personal values and negative consequences of excessive drinking, setting personal consumption limits, and self-monitoring. The evaluation results are limited in that there are few direct measures that were statistically significant, but the general trend of results was positive. Of specific interest in the results was the significant decrease in acceptability of second-hand consequences. The decrease in acceptability of second-hand consequences can be seen as support for preventing sexual assault, person-to-person violence, and residential disturbances. Direct individual behavior measures trended positively but demonstrated only modest change of significance in actual alcohol consumption amounts, which is a potential area of growth in the current program format.

Collective attitudes and norms associated with the chapter and alcohol use were targeted through discussions of tolerable and intolerable negative second-hand consequences of alcohol use and group participation in alcohol-free social and service activities. Recent research indicates that approaching alcohol use on both the individual and collective level of dense social networks (like sororities) is important to achieve lasting behavior change (Trockel et al., in press).

**Table 4**  
**Evaluation Study Recommendations**

<b>Recommendation Description</b>	
<u>Area One</u>	<u>Individual Level Determinants of Alcohol Use</u>
Individual Recommendation A	Utilize brief screening and feedback for all members of the organization to occur on an individual level. Brief screening involves each chapter member taking a brief alcohol use assessment and receiving specific feedback via e-mail or mail about individual consumption, as compared to a pre-selected norm. In the context of future intervention, a recommendation would be to challenge participants to record their alcohol use for two weeks and then complete a brief screening. Participants who choose not to complete the self-monitoring exercise can still complete the brief screening and receive feedback.
Individual Recommendation B	Peer-group attitudinal normative feedback should be provided to all members of participating chapters. This attitudinal feedback should be chapter specific and should be worded to challenge chapter members' exaggerated perceptions that their sorority sisters expect them to drink alcohol. Data here indicate chapter specific data will consistently show that many chapter members believe other members "expect" them to drink, whereas very few chapter members report that they do expect other members to drink. The disconnect in perception of peer pressure will provide an opportunity for intervention in most chapters.
<u>Area Two</u>	<u>Chapter Social Culture Determinants of Alcohol Use</u>
Chapter Recommendation A	Raise individual awareness of second-hand consequences through the use of Web-based instruction that could occur in an asynchronous fashion. Although individual perceptions of second-hand consequences are a weak predictor of alcohol use, the greater potential value of increasing perception of second-hand consequences among student chapter members resides within influence on informal group standards of conduct via altered communication de-glorifying alcohol use over time (Trockel et al., in press). For example, a group-level increase in second-hand consequence expectancies could reduce prevalence of bragging about alcohol use. Reduced bragging is likely to reduce exaggerated alcohol benefit expectations among members of the group and lead to concomitant reductions in alcohol use.
Chapter Recommendation B	Continue to utilize the second-hand consequences session in a group format with chapter specific data. Shift the focus of the session to determine what negative alcohol uses group members want to prevent paired with associated prevention strategies.
Chapter Recommendation C	Work directly with chapter leaders in planning service activities that require meaningful sustained engagement in service, as opposed to episodic opportunities. Service should focus on community engagement and chapter member reflection, rather than one-time fundraisers or a few hours of manual labor.
Chapter Recommendation D	Share collective behavioral and attitudinal data with chapter leaders for their use in policy development and review. Allow for problem identification and problem solving to be driven at the local level by organizational leaders in consultation with inter/national organization staff. Have the policy review process be a part of each year's leadership expectations.
<u>Area Three</u>	<u>Organizational Considerations for Development of Effective and Sustainable Interventions</u>
Implementation Recommendation A	The organization must make whatever alcohol prevention program it selects its own. Ownership must rest with the organization for the program to be successful. The program should be evaluated yearly as a part of a monitoring of effectiveness and continuous improvement process.
Implementation Recommendation B	There should be an organizational commitment to gathering chapter level responses to alcohol and other drug uses to target services for chapters at the highest risk for problems. In the current evaluation, there was significant variance in alcohol use at the chapter level; therefore the need for prevention activities is not evenly distributed across chapters.

While the current program design produces desired individual attitudinal and behavioral change, some real questions exist as to whether the pilot program format can be replicated and institutionalized. In their implementation of the program, program developers exerted significant time and effort with just two chapter sites. These limitations suggest that multi-site replication of the current program format with limited resources may not be successful. While the group format remains an important way to deliver certain types of information, pilot feedback would indicate that different delivery modalities such as asynchronous learning via the Internet, direct feedback via e-mail or mail, and working in concert with organizational leaders (potentially at a distance) are important. The evolution of this program should include efforts to alter delivery modalities that specifically address the challenges in replication and institutionalization.

### Conclusions

Alcohol use and abuse remain a continuing problem for college students in general, and fraternity/sorority affiliated students in particular. Effective intervention programs cannot be one-dimensional; they must be responsive to both individuals and group cultures surrounding alcohol use. Specific strategies cannot be developed piecemeal, rather they have to be driven by theory and the significant body of emerging research, and then validated by meaningful outcomes evaluation. Within today's fraternal organizations, successful programs will need to utilize a variety of delivery modalities to reach students with both salient and palatable messages associated with alcohol. This study provides a framework for such strategies, albeit the challenge remains for inter/national fraternal organizations, higher education institutions, student organizations, and interested partners to innovatively refine and expand the process and products herein to produce concrete, effective, and readily duplicated intervention programs.

### References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Berkowitz, A. D. (2005). An overview of the social norms approach. In L. C. Lederman & L. P. Stewart (Eds.), *Changing the culture of college drinking: A socially situated health communication campaign* (pp. 193-214). Cresskill, NJ: Hampton Press.
- Borsari, B. E., & Carey, K. B. (1999). Understanding fraternity drinking: Five recurring themes in the literature, 1980-1998. *Journal of American College Health*, 48(1), 30-38.
- Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998). Alcohol use in the Greek system: Follow the leader? *Journal of Studies on Alcohol*, 59, 63-70.

- Caudill, B. D., Crosse, S. B., Campbell, B., Howard, J., Luckey, B. & Blane, H. T. (2006). High-risk drinking among college fraternity members: A national perspective. *Journal of American College Health*, 55(3), 141-155.
- Hunter, F. J., & Mazurek, M. B. (2004). The effectiveness of intervention studies to decrease alcohol use in college undergraduate students: An integrative analysis. *Worldviews on Evidence-Based Nursing*, 1(2), 102-119.
- Kuh, G. D., & Arnold, J. C. (1993). Liquid bonding: A cultural analysis of the role of alcohol in fraternity pledgship. *Journal of College Student Development*, 34(5), 327-334.
- LaBrie, J. W., Pedersen, E. R., Lamb, T. F., & Quinlan, T. (2007). A campus-based motivational enhancement group intervention reduces problematic drinking in freshman male college students. *Addictive Behaviors*, 32(5), 889-901.
- Larimar, M. E., & Cronce, J. M. (2002). Identification, prevention and treatment: A review of individual-focused strategies to reduce problematic alcohol consumption by college students. *Journal of Studies on Alcohol*, 14, 148-163.
- Larimer, M. E., Kilmer, J. R., & Lee, C. M. (2005). College student drug prevention: A review of individually-oriented prevention strategies. *Journal of Drug Issues*, 35(2), 431-437.
- Larimer, M. E., Turner, A. P., Anderson, B. K., Fader, J. S., Kilmer, J. R., Palmer, R. S., et al. (2001). Evaluating a brief alcohol intervention with fraternities. *Journal of Studies on Alcohol*, 62, 370-380.
- Licciardone, J. D. (2003). Outcomes of a federally funded program for alcohol and other drug prevention in higher education. *American Journal of Drug and Alcohol Abuse*, 29(4), 803-827.
- McNally, A. M., & Palfai, T. P. (2003). Brief group alcohol interventions with college students: Examining motivational components. *Journal of Drug Education*, 33(2), 159-176.
- Mitchell, R. J., Toomey, T. L., & Erikson, D. (2005). Alcohol policies on college campuses. *Journal of American College Health*, 53(4), 149-157.
- Plucker, J. A., & Teed, C. M. (2003). Evaluation of an alternative methodology for investigating leadership and binge drinking among sorority members. *Addictive Behaviors*, 29(2), 381-388.
- Presley, C., Meilman, P. W., & Leichliter, J. S. (2002). College factors that influence drinking. *Journal of Studies on Alcohol*, 63, 82-90.
- Reis, J., Trockel, M., & Wall, A. (2003). Promoting student support for alcohol misuse prevention on campus: The role of second hand consequence expectancies. *NASPA Journal*, 40(2), 59-73.

- Thombs, D. L., & Briddick, W. C. (2000). Readiness to change among at-risk Greek student drinkers. *Journal of College Student Development, 41*(3), 313-322.
- Trockel, M., Wall, A., & Reis, J. (2002). Impact of perceived second hand consequences related to alcohol use on college students' drinking behavior intent: A test of feasibility. *Journal of Drug Education, 32*(3), 179-193.
- Trockel, M., Williams, S. S., & Reis, J. (2003). Considerations for more effective social norms based alcohol education on campus: An analysis of different theoretical conceptualizations in predicting drinking among fraternity men. *Journal of Studies on Alcohol, 64*, 50-59.
- Trockel, M., Wall, A., Williams, S., & Reis, J. (in press). When the party for some becomes a problem for others: The potential role of perceived second-hand consequences of drinking behavior in determining collective drinking norms. *The Journal of Psychology: Interdisciplinary and Applied*.
- Wall, A. (2005). *Alcohol prevention efforts within Illinois institutions of higher education: Assessing the state of prevention*. Charleston, IL: Eastern Illinois University, College of Education and Professional Studies, Illinois Higher Education Center for Alcohol, Other Drug and Violence Prevention.
- Wechsler, H., Kuh, G. D., & Davenport, A. (1996). Fraternities, sororities and binge drinking: Results from a national study of American colleges. *NASPA Journal, 33*(4), 260-279.
- Weitzman, E. R., Nelson, T. F., Lee, H., & Wechsler, H. (2004). Reduced drinking and related harms in college: Evaluation of the "A Matter of Degree" program. *American Journal of Preventive Medicine, 27*(3), 187-196.
- Werch, C. E., Pappas, D. M., & Castellon-Vogel, E. A. (1996). Drug use prevention efforts at colleges and universities in the United States. *Substance Use and Misuse, 31*(1), 65-80.
- Workman, T. A. (2001). Finding the meaning of college drinking: An analysis of fraternity drinking stories. *Health Communications, 13*(4), 427-447.

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