Evaluation of an Underage Drinking and Driving Prevention Program

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Abstract: Underage drinking and its associated consequences, including driving after drinking and riding with a drinking driver, remain a major public health concern to this nation. Underage drinking is also a major contributor to motor-vehicle injuries and fatalities among persons age 15 to 20. School-based alcohol prevention programs are essential in helping to prevent drinking and driving among adolescents. This paper will present methods and results of a preliminary evaluation conducted on a school-based drinking and driving prevention program for high school students that simulates alcohol-related consequences and involves various community elements.

Recent epidemiological studies suggest that alcohol remains the primary drug of choice among adolescents, with the average age of first use being 13.2 years (Arata, Stafford, & Tims, 2003; Harris, Jolly, Runge, & Knox, 2000; Maney, Higham-Gardill & Mahoney, 2002; Stewart, 1999). The National Center on Addiction and Substance Abuse (CASA) at Columbia University estimates that 20% of alcohol consumption occurs among persons less than 21 years of age (2003). According to the Centers for Disease Control and Prevention (CDC) (2004), approximately 75% of high school students nationwide reported using alcohol at least once during their lifetime (i.e. one more drinks on one or more occasions) while 45% reported being current alcohol users (one or more drinks on one or more occasions within the last 30 days). In regards to heavy alcohol use, 28% of high school students reported binge drinking (five or more drinks in a row on one or more occasions) and between 18% and 31% reported being drunk within the last 30 days (CDC, 2004; Johnston, O’Malley, Bachman, & Schulenberg, 2003).

Alcohol also significantly contributes to motor vehicle crashes, which remain the leading cause of death for persons 15-20 years of age (CDC, 2004, Lazy, Wiliszowski, & Jones, 2004). According to the Office of Applied Studies at the Substance Abuse and Mental Health Services Administration (2004), in 2003, 21% of persons aged 16 to 20 reported that they had driven within the past year while under the influence of alcohol or illicit drugs. The National Highway Traffic Safety Administration (NHTSA) reports that in 2003, a quarter of young drivers ages 15 to 20 years killed in motor vehicle crashes were intoxicated (NHTSA, 2004). Young male drivers are also at higher risk for being killed in an alcohol-related motor-vehicle crash. In 2003, 28% of the young male drivers involved in fatal crashes had been drinking at the time of the crash, compared with 13% of the young female drivers involved in fatal crashes (NHTSA). Exposure to alcohol-related injuries and fatalities among adolescents are also enhanced by a series of other driving risks which include limited driving and road experience, nighttime driving, speeding, and failure to use proper safety restraints.

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The objectives of this study are to (a) describe the process of an evaluation conducted on an underage drinking and driving prevention program for high school students, (b) report whether participants expressed changes in expectancy scores regarding underage alcohol use, and (c) develop programmatic recommendations that will strengthen the future design, implementation, and evaluation of this experiential underage drinking and driving prevention program.

SHATTERED DREAMS

Elemental to effective school-based alcohol prevention programs are integrated community wide initiatives to raise awareness of the consequences of underage alcohol use and to deter access through a combination of countermeasures including legal, enforcement, medical, media, and political entities. Shattered Dreams is a model of both school and community-based alcohol prevention that incorporates simulated alcohol-related consequences with 14 community elements that include students, parents, educators, school administrators, health systems, and law enforcement personnel (Burandt, Guerra, Villarreal, Ramirez, & Harding, 1998).

In 1998, the Bexar County DWI Task Force Advisory Board on Underage Drinking, in response to an increase in alcohol-related motor vehicle fatalities, established a program that would enhance awareness and understanding of the relationship between alcohol use and the occurrence of motor vehicle-related injuries and fatalities among adolescents. Shattered Dreams was modeled after Every 15 Minutes, a similar program developed and implemented in 1996 by the Chico, California Police Department (Burandt et al., 1998). This program’s title symbolized the death of a person every 15 minutes as a result of an alcohol-related traffic crash (Burandt et al., 1998).

The comprehensive nature of Shattered Dreams requires substantial community effort from the volunteers and planning committees involved in sponsorship. School personnel, parents, and community volunteers plan the event at least six months in advance and must organize and develop specific program teams to solicit participation and support from various local public safety and health care professionals (Beer, Price, Villarreal, & Salazar, 2002). Program teams include assembly, counseling, death notification, debriefing, historian, living dead, mock crash, retreat, scholarship, video production, and public information.

This intensive two-day experiential program visually demonstrates the social, physical and emotional consequences that underage drinking and driving can have both on a school and a community. The program’s target audience includes high school juniors and seniors (a segment of the adolescent population in which a majority have fulfilled the legal requirements to operate a vehicle and a group that is at a higher risk to engage in alcohol-related risk behavior). This program requires participation from the various elements located within and outside the high school setting including students, educators, and counselors, as well as medical, law, and various other emergency service entities (Burandt et al., 1998). A significant portion of this simulation occurs on the campus of the participating high school to dramatize and reinforce among the student body the significance of an alcohol-related fatality.

The first day begins with an enactment of an alcohol-related motor-vehicle crash involving direct participants (student volunteers) in various stages of trauma including deceased passengers and the injured drunk driver. Law enforcement and emergency response follows (i.e., paramedics, state and local law enforcement officers, air and fire rescue) and includes the transporting of surviving passengers via ground and air to a local medical facility for emergency treatment while the deceased are taken to a local funeral home. The intoxicated driver is given a field sobriety test, arrested, and then delivered to the local juvenile detention center to await arraignment. During this time, local and state enforcement agents are dispatched to the participating students’ homes to notify parents that their son or daughter has been killed in an alcohol-related crash. The loss of life as a result of underage drinking and driving is dramatized throughout the day as a student or adult volunteer dressed as a Grim Reaper enters selected classrooms and removes a student volunteer to symbolize the number of persons killed by alcohol within a designated time interval. The reading of a obituary to the entire class immediately follows the student’s departure. The student volunteers return to their individual classrooms and are identified as, “Living Dead.” Their faces are covered in white makeup to reinforce the notion of death and finality of a life cut short as a result of alcohol. The Living Dead do not speak nor make eye contact with fellow students for the remainder of the day.

Direct student participants (usually numbering around twenty-five) attend an overnight retreat where the central focus is skill-building activities that promote and reinforce healthy behaviors and choices that reduce the likelihood of alcohol use. Other activities focus on team-building, task and goal completion, promoting alternative patterns of communication that include redirection, reinforcement of positive peer influence, leadership development and reflection, and reinforcement and strengthening of familial relationships. Retreat activities use a mixed-method approach.
of interactive, video and personal presentations by a series of community, medical, and law enforcement personnel. These presentations include personal experience or knowledge-based topics regarding underage drinking and driving. Additional retreat activities stimulate youth leadership development that incorporates group discussions regarding personal power, identity, and the impact of drinking and driving on both friends and family (Beer et al., 2002; Burandt et al., 1998).

On the second day, both direct participants and observers (students exposed to the living dead and mock crash) attend a school-wide assembly with a mock funeral and a series of presentations by various medical, and law enforcement personnel, students, parents, and educators. Supportive debriefing sessions are held afterwards for students, parents, and volunteers who are interested in talking about issues or topics that might have been raised as a result of their involvement in the program. An optional follow-up activity enacts a mock trial of the drunk driver involved in the simulated alcohol-related motor-vehicle crash (Burandt et al., 1998).

METHOD

The current evaluation utilized a single-group pretest-posttest (Reflexive Control) design (Cook & Campbell, 1979; Rog, 1994). Within this specific design, information on individuals is collected and measured prior to and after participating in an intervention. The information collected at these two different time points then serves as a point of comparison (i.e., whether individuals exhibited change after participating in the intervention). Despite previously cited design limitations, this type of design was adopted and identified as a logistically efficient and cost-effective approach to evaluate this program.

INSTRUMENT

Pre- and post-program questionnaires were standardized, closed-ended, and composed of 24-matched items. Sixteen items measured perceptions, attitudes, and level of awareness of underage alcohol use (a) in social activities, (b) on behavior and relationships, (c) in the ability to communicate the consequences associated with drinking and driving to peers, and (d) the likelihood of negative consequences occurring as a result of drinking and driving including injury and death. Responses were based on a 4-point Likert-type scale and ranged from strongly agree to strongly disagree. Four Texas zero tolerance items were included in order measure student knowledge about the legal consequences associated with alcohol use for individuals less than 21 years of age including fines, suspension of license, and imprisonment.

The final component of the pre- and post-program questionnaire incorporated four demographic (pre-program) and three items that asked participants about the perceived impact of Shattered Dreams (post-program). A unique identifier was created to ensure that responses at both time points corresponded to individuals who were exposed to Shattered Dreams and that respondents at both pre and post were similar with respect to characteristics that may otherwise cloud or confound conclusions.

ADMINISTRATION

Permission was granted to administer student questionnaires upon review and approval by the University of Texas Health Science Center's Institutional Review Board and school district administration. Pre- and post-program questionnaires were administered approximately four weeks before and four weeks after the Shattered Dreams program to seniors enrolled at a high school in northeast San Antonio. This high school volunteered to conduct the Shattered Dreams program in the fall of 2002. According to the Texas Education Agency (2003), approximately 75% of the senior class were white non-Hispanic, 17% Hispanic, 3% black and 5% Asian/Pacific Islander/Native-American. In terms of campus characteristics, 4% of the student body was identified as economically disadvantaged and 0.7% as having limited English proficiency with a student to teacher ratio of 16:1.

Only students who participated in the Shattered Dreams program (direct and observers) were administered program questionnaires via their student advisory period. At both time points, questionnaires were collected by school faculty, placed in their assigned envelope and submitted to the evaluation team.

RESULTS

SAMPLE CHARACTERISTICS

A total of 349 seniors completed the pre-program questionnaire, prior to Shattered Dreams, for an overall response rate of 60%. Table 1 indicates that slightly more than half of respondents were female (53%) and white non-Hispanic (66%) with a mean age of 17.2 years (SD = .46).

MALE/FEMALE DIFFERENCES REGARDING ALCOHOL EXPECTANCIES

Chi-square tests ($\chi^2$) of statistical significance were calculated to assess whether differences existed between sex of respondent and positive and negative alcohol expectancy items. An alpha level of .05 was used for all statistical tests. Table 2 shows statistically significant differences between attitudes expressed towards un-
derage drinking and driving under the influence and respondent’s sex in this sample. For example, when respondents were asked to state whether they agreed or disagreed that “having two to three drinks is a good way to relax,” 79% of females disagreed with the statement compared to 57% percent of males \( \chi^2 (1, N = 349) = 19.99, p = .01, \phi = .47 \). Similarly males were more likely to agree that “a party was more fun when alcohol was being served” and that it was “okay to drive if you have only had two to three drinks,” 48% and 27% respectively compared to females; 27% and 10% respectively. On “taking the issue of drinking and driving seriously,” 81% of females agreed with this statement compared to 67% of males \( \chi^2 (1, N = 349) = 8.73, p = .01, \phi = .35 \). Females were also more likely to agree that “they could talk to their friends about drinking and driving” compared to males (87% and 74% respectively; \( \chi^2 (1, N = 349) = 9.411, p = .01, \phi = .39 \). On whether it is “rare for people who drink and drive to cause injury or death to others,” 18% of males agreed with the statement compared to 6% of females \( \chi^2 (1, N = 349) = 11.36, p = .01, \phi = .52 \). No significant differences in intensity of response by sex of respondent was identified for the statement regarding whether it was okay to “drink if you are underage, as long as you do not drive” with 55% of females reporting disagreement compared to 52% of males.

Cramer’s Contingency Coefficient (V) was utilized to assess strength of association between variables. Strength of association on these seven items ranged from low to moderate (Cramer’s V = 0.14 to 0.23). Tests of significance were similarly utilized to assess if there were differences between attitudes towards underage drinking and driving under the influence and the race or ethnicity of respondent. Race was recoded into three categories (white non-Hispanic, Hispanic, and other). Only one item was identified as statistically significant. White non-Hispanics (36%) were more likely to agree with the statement, “having two to three drinks is a good way to relax,” compared to Hispanics (24%) and other (17%) \( \chi^2 (1, N = 349) = 10.662, p = .01, \phi = .17 \).

### POST-PROGRAM QUESTIONNAIRE RESULTS

From the original sample of 349 seniors who participated in the pre-program questionnaire, a total of 191 or 33% completed the post-program questionnaire. Respondents were mostly female (63%), white non-Hispanic (63%) with a mean age of 17 years (SD = .458). To assess global change from pre- to post- in alcohol expectancy scores among respondents, a scale was created through principal component analysis, based on the 16 original items.

Four internal consistency estimates of reliability were computed for both the pre- and post- Positive Alcohol Expectancy Scale (PAES) (The coefficient alpha and a split-half coefficient expressed as a Spearman-Brown corrected correlation). Due to the odd number of items the unequal-length split-half coefficient is reported. In splitting the items, sequencing and whether the item indicated or measured alcohol as a relaxant or as a socially acceptable behavior were taken into account. Values for the alpha and the Spearman Brown coefficient for each of the respective pre- and post-program sub-scales measured .88 and .84 respectively. The three items combined to form a scale of positive alcohol expectancy. Each item was coded 0 to 3 or (values ranged from 0 = Strongly Agree, 1 = Agree, 2 = Disagree, 3 = Strongly Disagree). These items combined to form an overall scale that ranged from 0 to 9. An individual who expressed an overall score of 0 would be more inclined to initiate alcohol use compared to an

### Table 1. Demographic Characteristics of 12th Grade Participants (N = 349)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at time of survey (years)</td>
<td>349</td>
<td>17.20</td>
<td>.46</td>
</tr>
<tr>
<td>Sex (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>164</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>185</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Race/Ethnicity (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>226</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>79</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Black or African-American</td>
<td>11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Note: Other includes respondents who answered Native-American, Hawaiian, or Pacific Islander (N=4), Asian-American (N=15) and other racial or ethnic category not specified (N=7).
Table 2. Responses (%) Towards Statements Regarding Drinking Alcohol and Driving by Sex of Respondent

<table>
<thead>
<tr>
<th>Situation</th>
<th>Male (n = 164)</th>
<th>Female (n = 185)</th>
<th>$c^2$ (1)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having two drinks is a good way to relax</td>
<td>43 57</td>
<td>21 79</td>
<td>19.9</td>
<td>.001</td>
</tr>
<tr>
<td>A party is more fun when alcohol is being served</td>
<td>48 52</td>
<td>28 72</td>
<td>15.89</td>
<td>.001</td>
</tr>
<tr>
<td>Okay to drink if you are underage, as long as you do not drive, do not drive</td>
<td>48 52</td>
<td>45 55</td>
<td>0.38</td>
<td>ns</td>
</tr>
<tr>
<td>Okay to drive if you have only had two to three drinks</td>
<td>27 73</td>
<td>10 90</td>
<td>18.61</td>
<td>.001</td>
</tr>
<tr>
<td>I take the issue of drinking and driving seriously</td>
<td>67 33</td>
<td>81 19</td>
<td>8.73</td>
<td>.001</td>
</tr>
<tr>
<td>Drinking and driving can have a negative effect on person’s relationship with friends</td>
<td>79 21</td>
<td>88 12</td>
<td>6.27</td>
<td>.001</td>
</tr>
<tr>
<td>I can talk to my friends about the consequences of drinking &amp; driving</td>
<td>74 26</td>
<td>87 13</td>
<td>9.41</td>
<td>.001</td>
</tr>
<tr>
<td>It is rare for people who drink and drive to cause injury or death to others</td>
<td>18 82</td>
<td>6 94</td>
<td>11.34</td>
<td>.001</td>
</tr>
</tbody>
</table>

individual who scored a 9 (indicating less of an inclination to initiate alcohol use).

**REPEATED MEASURES ANOVA**

To assess whether mean scores differ on the Positive Alcohol Expectancy Scale across two assessments, a repeated measures (One-Way Within-Subjects) ANOVA was conducted with the within-subjects factor being Time 1 mean score on the PAES and Time 2 mean score on the PAES. Means and standard deviations are presented in Table 3. The results of the ANOVA indicate a significant time effect, Wilks’ $L = .70 (1, 190) = 80.198$, $p = .000$, multivariate $n^2 = .30$.

A follow-up paired-samples $t$ test indicated a significant linear effect. For example, the post-score on the PAES ($M = 5.98$, $SD = 2.19$) was significantly greater than the baseline score ($M = 3.18$, $SD = 2.37$), $t (191) = 8.955$, $p = .000$. The standardized effect size index, $\bar{d}$, was .64, a moderate value. The mean difference was 2.8 points between the 9-point Likert pre and post rating scales. Results suggest that across two assessments individuals who participated in Shattered Dreams were less inclined to express agreement with positive expectations regarding alcohol use (specifically its utility as a relaxant and as socially acceptable behavior).

Table 3. Pre and Post-Program Group and Sex Differences in the Positive Alcohol Expectancy Scale

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.18</td>
<td>2.62</td>
<td>5.98</td>
<td>2.32</td>
<td>8.955*</td>
<td>191</td>
</tr>
<tr>
<td>Female</td>
<td>3.37</td>
<td>2.62</td>
<td>5.94</td>
<td>2.32</td>
<td>4.680*</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>3.06</td>
<td>2.22</td>
<td>6.01</td>
<td>2.13</td>
<td>7.785*</td>
<td>118</td>
</tr>
</tbody>
</table>

$p < .001$
DIFFERENCES BY SEX

Repeated measures (One-Way Within-Subjects) ANOVA were also conducted separately for both males and females to assess whether scores differed across two assessments of the PAES. Results of the ANOVA demonstrated significant time effects for both males (Wilks’ L = .76 (1, 70) = 21.905, p = .001, multivariate $\eta^2 = .24$) and females (Wilks’ L = .67 (1, 118) = 60.607, p = .001, multivariate $\eta^2 = .30$).

In addition, paired-samples $t$ tests were also conducted to evaluate differences in scores between males and females prior to and after exposure to the intervention. Results also reported in table 3 demonstrate that the post-program mean for the PAES was significantly greater than the pre-program mean. For example, males expressed a post-program mean of 5.94 (SD = 2.32) and was significantly greater than the pre-program mean for the PAES (M = 3.37, SD = 2.62), t (70) = 4.680, p = 0.000. The standardized effect size index, $d$, was .55, a moderate value. The mean difference was 2.57 points between the 9-point Likert pre- and post-rating scales.

Paired-samples $t$ test results similarly suggested a significant change for females. The post-program mean the PAES of 6.01 (SD = 2.13) was greater than the pretest mean (M = 3.06, SD = 2.22), t (118) = 7.785, p = 0.000. The standardized effect size index, $d$, was .71, a substantial value. The mean difference was 3.20 points between the 9-point Likert pre- and post-rating scales. Sub-group results similarly suggest that across two assessments, both males and females exposed to Shattered Dreams were less likely express agreement with positive expectancies regarding alcohol use and were just as likely to report that as result of the program they would be more likely to drink and drive, the risks associated with drinking and driving, and that their friends as a result of participating in the program would be more likely to drink and drive. There are however notable differences. For example males not only reported slightly higher baseline expectancy scores compared to females (3.37 and 3.06, respectively) but males also were less likely to show a decrease in intentions to use alcohol compared to females (2.57 and 3.20, respectively).

DISCUSSION

Preliminary evaluation demonstrates that this program reduced positive expectations towards drinking and driving among participants. Results also demonstrate a measurable difference in alcohol expectancy scores from pre-program to post-program assessment between males and females. This compliments other investigations into dissimilarities in drinking motivations and outcomes between adolescent males and females and the various social and environmental factors that promote these differences, which include social or cultural expectations, differential pathways of coping as well as familial and peer affiliation (Copeland & Shope, 1996; Piko, 2001, Metrik, Frissell, McCarthy, D’Amico, & Brown, 2003).

For example, pre-program scores reported that females were more likely to demonstrate disagreement towards alcohol as a relaxant and as an element of planned social activities. Females were also more likely to express an awareness of the relational effect of alcohol related to both peer relationships and in causing injury or death to others and to acknowledge that they could speak with their friends about the effects of underage drinking and driving. Males on the other hand, were more likely to endorse alcohol as a relaxant (42%); as acceptable to drive drunk (26%), and to be in disagreement regarding the seriousness of underage drinking and driving (32%).

Although promising, these results are far from conclusive and are subject to careful interpretation due to limitations including (a) the absence of a comparison group to more accurately assess whether changes in student responses were a result of being exposed to Shattered Dreams, (b) the absence of items to measure the prevalence of underage drinking and driving among participants prior to and after the program, and (c) the need to develop outcome measures based on precise programmatic assumptions of Shattered Dreams.

First, the absence of a comparison group similar in characteristic to the group exposed to Shattered Dreams significantly limits conclusive statements regarding effectiveness or impact of this program. Therefore, to assess whether changes in participant responses are a direct result of being exposed to a program or treatment, a comparison group should be incorporated in the research design. Specifically, Weiss (1998) and Rog (1994) observe that such a design is strengthened by the inclusion of periodic measurements, which can be helpful in assessing programmatic change over time.

Second, measures were not included to assess change in self-report drinking and driving among students prior to and after the program. A series of self-report items were initially included as part of the program questionnaires submitted for review to the participating school district. Amid the clarification that was made regarding data collections procedures, the specific purpose of the study, relevance of measures to evaluation outcomes, and the confidentiality of participant’s school district; officials still requested that self-report measures be removed. Grube, Keefe, and
Stewart (2002) observe that in studies involving schools, investigators must often make strenuous efforts to convince school authorities on the importance of participation. Such negotiations occur within the context of other school-related activities that can significantly diminish the participation of both administrators and educators. In addition, school administration and district officials may be concerned and or uneasy about dealing with study results affecting their students. It is important, therefore, to convey to school authorities the important programmatic assumptions that a study is attempting to identify and measure.

Third, is the development of a limited number of outcome measures reflective of the programmatic assumptions of Shattered Dreams. For example, participants were measured on legal knowledge regarding specific situations involving underage drinking and driving. Results however demonstrated that student knowledge did not increase from pre- to post. One programmatic assumption of Shattered Dreams was that the students would increase their knowledge of Texas underage drinking laws otherwise known as zero-tolerance. While specific zero-tolerance information was provided to only a small number of students (direct participants who attended the overnight retreat), less intensive efforts were made to provide observers (students not directly involved in the program but who observed the mock crash and assembly) with information regarding zero-tolerance. Therefore, the unequal dissemination of zero-tolerance information perhaps limited most students from fully learning and comprehending state underage drinking and driving laws.

Although results will serve to inform and guide the development of a zero-tolerance component in Shattered Dreams, future recommendations include clearly stating and defining the programmatic assumptions to be measured. For example in regards to zero-tolerance laws, it should clearly state the type of information that will be provided, the specific target audience and how it will be used. Clear and specific use of information should lead to the development of items that effectively measure zero-tolerance knowledge among participants.

Amid the limitations involved in the current design, results also demonstrate the need to utilize background measures that report on pathways of risk or protection towards alcohol use by adolescents. Additionally, both programmatic and evaluative activities should not only address comprehensive alcohol prevention strategies to address the social intricacies that increase or decrease adolescent’s awareness regarding underage drinking and driving but develop and utilize the disparities in sex regarding alcohol use and experimentation. Further, information gleaned from this study augments a previous evaluation conducted by Hover, Hover and Young (2000) on a similar school-based underage drinking and driving prevention program involving the community. In addition to recommendations offered in this previous study, we advise adoption of a more rigorous evaluation design, incorporation of standardized behavioral measures related to drinking and driving, and a more thorough understanding of the relationship between theoretical assumptions, programmatic objectives and outcome measures.

Future efforts will also focus on strengthening the development and evaluation of this program. This will include the adoption and application of behavioral theory in order to enhance our understanding of the processes that foster behavioral change as a result of students participating in this program. A concerted effort will also be made to include more schools and communities diverse in regards to both social and community characteristics (i.e., urban, rural, economically underserved) as well as obtain a more representative sample of students to more thoroughly examine the multiple risks associated with underage and drinking. Qualitative examinations with both students and key stakeholders on norms regarding underage drinking and driving will be essential to measuring the overall impact of Shattered Dreams on both a school and community. These approaches should also be complimented by repeated measures and extended follow-up of program participants. These activities will help to strengthen the validity and reliability of results and help determine both the short and long-term effects of this program.

This study was supported by a grant from University Health System, Bexar County, Texas under contract 2201063-LS. This paper is based on the first author’s thesis which was presented at the 99th annual meeting of the American Sociological Association in San Francisco, California, August 2004.

REFERENCES


CHES AREAS
Responsibility IV - Evaluating Effectiveness of Health Education Programs
Competency C - Interpret results of program evaluation.
Sub-competency 3 - Report effectiveness of educational programs in achieving proposed objectives.