

Short-term Evaluation of a Web-Based College Alcohol Misuse and Harm Prevention Course (College Alc)

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Abstract:

This study examined the short-term effects of a web-based alcohol misuse and harm prevention course (College Alc) among incoming freshmen at a California public university. Analysis results indicated that at the end of the fall semester, students randomly assigned to College Alc (n = 173) had a higher level of alcohol-related knowledge and less positive attitude toward alcohol use than students in the control group (n = 197). Students assigned to College Alc also reported a somewhat higher level of intentions to use strategies to minimize alcohol-related harm. College Alc did not have any effects on other targeted psychosocial factors (e.g., alcohol expectancies), alcohol use and heavy drinking, and alcohol-related problems. Observed effect sizes were generally small, suggesting that College Alc may have no effect on students' risk for alcohol misuse and related harm.

Keywords: college students | alcohol use | heavy drinking | harm prevention

Article:

INTRODUCTION

The incidence of heavy alcohol use and alcohol-related problems remains unacceptably high among college students. National surveys indicate that approximately 40% of college students report heavy drinking (five or more consecutive alcoholic beverages) at least once in the prior two weeks (Johnston, O'Malley, & Bachman 2003; Wechsler et al., 2002). It is estimated that alcohol misuse contributes to over 1,400 deaths, over 500,000 unintentional injuries, and over 600,000 intentional injuries among college students each year (Hingson, Heeren, Zakocs, Hopstein, & Wechsler, 2002). Thus, identifying effective strategies to reduce alcohol misuse and alcohol-related harm among college students has become a public health research priority

(National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2002a). Several 2010 Health Objectives focus on alcohol use among college students, such as reducing the percentage of college students engaging in heavy or "binge" drinking to 20%, and increasing the percentage of students who receive information on health risk behaviors, including alcohol use, from 6% to 25% (U.S. Department of Health and Human Services, 2000).

Although a number of effective intervention strategies have been identified for students with a history of heavy or problem drinking, less rigorous research has focused on universal prevention strategies that may benefit all students (Larimer & Cronce, 2002; NIAAA, 2002b; Walters, Hester, Chiauzzi, & Miller, 2005). Despite limited research, many universities are now using interactive computer--or web-based programs (e.g., Alcohol Edu) to reach large numbers of students, such as incoming freshmen who are especially vulnerable to alcohol misuse and alcohol-related problems (Gruenewald, Johnson, Light, Lipton, & Saltz, 2003). These programs incorporate some of the features of effective strategies recommended by an NIAAA Advisory Council Task Force, such as (1) personalized feedback to help students monitor their drinking, correct their misperceptions of drinking norms, and clarify their personal values and attitudes toward alcohol use, and (2) research-based information to challenge students' alcohol expectancies (NIAAA, 2002b). These strategies are grounded in well-known theories of problem and health-related behavior (Ajzen, 1998; Jessor & Jessor, 1977), and have been effective in brief interventions for high-risk students (Latimer & Cronce, 2002; Maddock & Wood, 2000; Walters et al., 2005).

Whether such approaches can be effective for the general student population in a self-administered interactive computer--or web-based format is not clear, as almost none of the existing universal programs have been evaluated using a randomized controlled design. Despite limited research on their effectiveness, self-administered computer--and web-based programs like Alcohol Edu have become a popular, relatively inexpensive means by which universities can "educate" large numbers of students about alcohol risks and make some effort to prevent alcohol misuse and alcohol-related problems. Some universities now "mandate" student participation in web-based programs such as Alcohol Edu, but without any incentive such as course credit or some type of sanction for not completing the program. Thus, little is known about whether students actually complete these self-administered programs or take them seriously, raising further questions about their potential for preventing alcohol misuse and alcohol-related harm.

The present study was conducted to evaluate an abbreviated (3-hour) non-credit version of a new web-based course known as College Alc. College Alc was developed by Tanglewood Research in collaboration with the University of Nebraska's Educational Telecommunications Network with funding from NIAAA. The College Alc course and accompanying text were developed to improve knowledge, attitudes, and skills to prevent alcohol misuse and alcohol-related harm, incorporating features of effective prevention strategies noted above that were recommended by the NIAAA Task Force. College Alc can be offered for course credit with an instructor or as an abbreviated non-credit course without an instructor. This study was conducted to determine whether an abbreviated non-credit version of College Alc would have short-term effects on students' alcohol related knowledge, attitudes, expectancies, normative beliefs, intentions to minimize harm, drinking behavior, and negative drinking consequences. Based on the underlying theory and prior studies (Graham, Tatterson, Roberts, & Johnson, 2004), we expected that College Alc would have somewhat stronger effects on targeted proximal outcomes, such as

students' alcohol-related knowledge and psychosocial factors (e.g., attitudes, expectancies) relative to alcohol use behaviors.

METHOD

Participants and Procedures

Incoming freshmen at a northern California public university were invited to participate in the College Alc evaluation study during on-campus orientation sessions and through a letter and e-mail recruitment effort in August 2004. They were informed that if they were at least 18 years old and chose to participate, they would be asked to complete an on-line questionnaire before the beginning of the semester and again at the end of the semester. Students were informed that upon completion of the baseline survey they would be randomly assigned to either take the 3-hour, non-credit College Alc online course or the control group. They were also informed that they would receive a check for \$10 for each completed survey and a check for \$50 if they completed College Alc.

An e-mail invitation followed the mailed invitation letter with instructions on how to access a secure website that hosted the baseline survey. Once they were logged on, a modified version of the consent form was presented. Students clicked on a "consent" button before they were permitted to begin the survey. The informed consent procedure and a data security protocol were approved by an Institutional Review Board.

Our goal was to obtain a baseline sample size of at least 600 students (300 per condition) based on results of power analyses to detect modest short-term College Alc effects, and assuming a 2530% study attrition rate, which would leave approximately 200 students in each study condition with baseline and follow-up survey data. A total of 622 students participated in the baseline survey.

Following the completion of the baseline survey, students were randomly assigned to either the College Alc ($n = 310$) or control group ($n = 312$). A stratified randomization procedure was used based on five alcohol use levels (lifetime abstainers, past-year but not lifetime abstinence, past-year but no past-month alcohol use, past-month alcohol use but no heavy drinking, and any heavy drinking in the past month) to ensure an equal balance of drinking levels in the treatment and control groups at baseline.

Students assigned to the College Alc condition were asked via email to complete the course during the first six weeks of the fall semester. Weekly e-mail reminders were sent to students who hadn't started or completed the course. Approximately one month after the course was closed, all 622 students who completed the baseline were sent an e-mail invitation to participate in the follow-up survey. Of those, 370 completed the follow-up survey and provided complete data for all study variables; 173 of these students were in the College Alc group and 197 were in the control group. Of the students in the College Alc group, 81 completed all five units, 4 completed four units, 4 completed three units, 6 completed two units, 5 completed one unit, and 73 did not complete any units.

College Alc

Topics of the five College Alc units are: College Alcohol Use, Harm Prevention, How it Works (processes by which alcohol affects the brain and behavior), Risky Business (driving, sex, violence), and Practical Solutions. Each unit includes graphics (including a streaming video clip)

and text, interactive animations, online assignments, readings, and a quiz. An online text written by experts in the field accompanies the course (Fearnow-Kenney & Wyrick, 2004, 2005).

All units of the course provide students with content, written assignments, and quizzes designed to improve and test their general knowledge of alcohol processes such as how it affects the brain, how it is absorbed and metabolized, factors affecting absorption and metabolism, sources of influence on drinking behavior, signs of acute and long-term drinking problems, and how to help and/or get help.

Normative beliefs are targeted in several ways. First, students are asked to complete an anonymous survey that measures their perceptions of drinking by other students. These data are summarized for the class and students learn about their peers' level of drinking and attitudes toward alcohol use. Second, students are asked to complete a daily drinking and cost analysis log, which allows them to monitor their own drinking and view a chart that compares their drinking behavior to the class average. Third, students are encouraged to post several of the written assignments and journal entries on the course bulletin board and read the entries of other students. Additionally, social norms is a topic in several of the readings.

Attitudes toward alcohol use are targeted through course bulletin board activities that support interaction between students. Journal entries in each unit allow students to consider the topic presented and their thoughts about it. The "My Stance" journal and bulletin board entries are another way for students to clarify their own attitudes toward alcohol use and gain a better understanding of other students' attitudes.

Alcohol expectancies are targeted in Unit 4: Risky Business. The course text includes a chapter on alcohol expectancies and their influence on drinking behavior, especially as it relates to drunk driving, sexual behavior, and violence. Research on alcohol expectancy challenges is also described. Students are encouraged to consider the expectancies they may hold regarding alcohol use and how those expectancies might influence their behavior regardless of how much alcohol they actually drink.

The course attempts to increase intentions to minimize harm by clearly defining what harm prevention is and presenting a variety of ways that students, college administrators, and the surrounding community can minimize alcohol-related harm. A harm prevention plan is assigned to help students think through typical scenarios where harm could be prevented (e.g., setting a limit on number of drinks, avoiding drinking games, planning not to drive after drinking or ride with a driver who has been drinking).

Measures

All measures described below were included in both the baseline and follow-up surveys. Surveys took approximately 20 minutes to complete. Internal consistency and/or test-retest reliability coefficients are reported for all measures. Test-retest reliability coefficients are based only on students in the control group (n = 197) due to potential College Alc effects. With two exceptions (alcohol-related knowledge and intentions to use strategies to minimize alcohol-related harm), all of the measures are identical or very similar to measures of the same constructs used in national surveys such as Monitoring the Future (Johnston, O'Malley, & Bachman 2003).

Alcohol Use and Heavy Drinking. Frequency of alcohol use in the past month was measured by asking students, "During the past 30 days on how many days did you have alcohol (beer, wine,

liquor, etc.)?" Seven possible response options ranged from "0 days" to "all 30 days" with corresponding values from 1 to 7. A dichotomous variable was also created to represent students who had and had not consumed any alcohol in the past 30 days. Students also were asked, "During the past 30 days how many times have you had five or more drinks at a sitting?" Six possible response options ranged from "none" to "10 or more times" with corresponding values from 1 to 6. Similarly, students were asked about the frequency of feeling drunk in the past 30 days. The test-retest reliability coefficients for these three measures were .68, .60, and .48 ($p < .001$), respectively.

Alcohol-Related Knowledge. To assess students' knowledge of alcohol topics covered in the College Alc course, 20 multiple-choice questions were included in the surveys. For example, students were asked to identify the correct ending for this statement: "The primary aim of alcohol harm reduction strategies is ... (a) to promote abstinence from alcohol, (b) to promote responsible alcohol use, (c) to teach alcoholics to control their drinking, or (d) to diminish negative consequences of intoxication." The percentage of correct response choices for the 20 questions was determined for each student with a higher value representing greater alcohol competency. The test-retest reliability coefficient was .49 ($p < .001$).

Positive Alcohol Expectancies. A five-item scale was used to assess students' positive alcohol expectancies. Students were asked, "How likely or unlikely is it that the following things would happen to you personally if you were to drink 3 or 4 alcoholic beverages? (a) Find it easier to express feelings; (b) Be more confident; (c) Worry less about what other people think of you; (d) Relax in social situations; and (e) Make it easier to act upon your feelings." Response options ranged from "very unlikely" to "very likely" with corresponding values from 1 to 4. A mean response score was computed for each student, with a higher value representing more positive alcohol expectancies ($[\alpha] = 0.87$, test-retest $r = .40$, $p < .001$).

Negative Alcohol Expectancies. A five-item scale was used to assess students' negative alcohol expectancies. Students were asked, "How likely or unlikely is it that the following things would happen to you personally, if you were to drink 3 or 4 alcoholic beverages? (a) Have problems with school or work performance; (b) Get nauseated or vomit; (c) Fight or argue with friends; (d) Drive under the influence; and (e) Do something you later regretted." Response options ranged from "very unlikely" to "very likely" with corresponding values from 1 to 4. A mean response score was computed for each student with a higher value representing more negative alcohol expectancies ($[\alpha] = 0.81$, test-retest $r = .62$, $p < .001$).

Normative Beliefs. To assess prescriptive norms, students were asked, "How would your closest friends feel about you having one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day?" and "How would your closest friends feel about you having five or more drinks in one sitting?" Five possible responses to these questions ranged from "They would strongly disapprove" to "They would strongly approve." Corresponding response values ranged from 1 to 5. A mean response score was computed for each student, with a higher score representing greater perceived approval of alcohol use and heavy drinking by peers (r for these two items = .58, $p < .01$, test-retest $r = .73$, $p < .001$).

A six-item scale was used to assess descriptive norms. Students were asked, "How often do (a) your closest friends consume enough alcohol to get drunk (including beer, wine, wine coolers, and mixed drinks)?" This question was repeated for (b) other college students, (c) fraternity member, (c) sorority members, (d) intercollegiate athletes, and (e) residence hall (dorm) students.

Seven possible responses ranged from "never" to "nearly every day". Corresponding response values ranged from 1 to 7. A mean response score was computed for each student with a higher score representing greater perceived heavy alcohol use among college peers ($[\alpha] = 0.85$, test-retest $r = .51$, $p < .001$).

Positive Attitudes Toward Alcohol Use and Heavy Drinking. A four-item scale was used to assess students' attitudes towards alcohol use. Students were asked, "How would you feel about your close friends having one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day?", "How would you feel about your close friends having five or more drinks in one sitting?", "How do you feel about people (18 and over) having one or two drinks nearly every day?" and "How do you feel about people (18 and over) having four or five drinks nearly every day?" Five possible response options for each question ranged from "I would strongly disapprove" to "I would strongly approve" with corresponding values from 1 to 5. A mean response score was computed for each student with a higher value representing a more positive attitude towards alcohol use and heavy drinking ($[\alpha] = 0.79$, test-retest $r = .64$, $p < .001$).

Intentions to Minimize Alcohol-Related Harm. An eight-item scale was used to assess students' intentions to minimize alcohol-related harm. Students were asked, "How likely are you to ... (a) set limits on how many drinks you're going to have on a night out or at a party? (b) discourage a date or friend who is under the influence of alcohol from driving? (c) make plans to avoid driving after drinking? (d) alternate drinking alcoholic and non-alcoholic beverages? (e) eat before and/or during drinking? (f) keep track of how many drinks you are consuming? (g) pace drinks to one or fewer per hour? and (h) avoid drinking games?" Response options ranged from "very unlikely" to "very likely" with corresponding values from 1 to 4. A mean response score was computed for each student with a higher value representing greater intentions to minimize alcohol-related harm ($[\alpha] = 0.76$, test-retest $r = .47$, $p < .001$).

Negative Alcohol-Related Consequences. A 27-item index was used to assess negative alcohol-related consequences among students who reported any alcohol use in the past 30 days. Students were asked, for example, "In the past 30 days, how often has your drinking caused you to ... (a) get nauseated or vomit? (b) feel tired or hungover? (c) get physically injured? and (d) hurt another person emotionally or physically?" For each question, six possible response options ranged from "never" to "10+ times" with corresponding values from 0 to 12. Response values were centered for response categories with ranges ("3-5 times" = 4, "6-9 times" = 7.5, "10+ times" = 12) to approximate the actual number of negative consequences in the past 30 days. A summative score was computed for each student with a higher value representing more negative alcohol-related consequences in the past 30 days. The test-retest reliability, coefficient was $.54$ ($p < .001$).

Data Analysis

Preliminary analyses (t-tests) were conducted to assess the equivalence of College Alc and control groups at baseline. Analyses of covariance (ANCOVAs) were then conducted to examine short-term effects of College Alc on alcohol-related knowledge, attitudinal, and behavioral outcomes measured at the end of the fall semester. Following the "intent-to-treat" protocol, all students assigned to the College Alc condition were included in the analyses, regardless of whether they completed the course. We used a statistical significance threshold of $.01$ for ANCOVAs to avoid Type I errors (i.e., rejecting null hypothesis when it is true) that may result

with a large number of statistical tests. In addition to tests of statistical significance, effect sizes were calculated to assess the magnitude of College Alc effects for each dependent variable.

RESULTS

Baseline Characteristics and Comparisons

Characteristics of the total study sample and the College Alc and control groups are provided in Table 1. The mean age was 18.06 (SD = 0.31) with 48% male, 42% Asian, 30% white, 16% Hispanic, 3% Black, and 8% other. Thirty-eight percent of the students reported any alcohol use in the past month while 23% reported any heavy drinking in the past month.

The College Alc and control groups were not significantly different at baseline with respect to almost all of the demographic, psychosocial, and behavioral variables. However, a significantly smaller percentage of Black students ($p < .05$) who completed baseline and follow-up surveys were in the College Alc group relative to the control group. Therefore, a Black race/ethnicity dummy variable and the corresponding baseline measure for each dependent variable were included as covariates in subsequent analyses.

College Alc Effects

ANCOVA results (Table 2) indicated no statistically significant differences between the College Alc and control groups for follow-up measures of past-month alcohol use and heavy drinking. Students assigned to the College Alc condition did have somewhat lower mean frequencies of alcohol use in the past 30 days (1.64 vs. 1.77, $p = .14$), having five or more drinks in the past 30 days (1.43 vs. 1.58, $p = .11$), and getting drunk in the past 30 days (1.35 vs. 1.45, $p = .13$). Effect sizes for these behavioral outcomes were small (< 0.2).

College Alc had significant though modest effects on students' alcohol-related knowledge and attitudes toward alcohol use, but had no effect at the .01 level on any of the psychosocial variables (alcohol expectancies, normative beliefs, and intentions to minimize alcohol-related harm). Students assigned to the College Alc condition had a higher percentage of correct answers to alcohol knowledge questions (43% vs. 38%, $p < .01$) and a lower mean level of positive attitudes toward alcohol use (1.70 vs. 1.88, $p < .01$). The mean level of intentions to use alcohol-related harm prevention strategies also was somewhat higher for students assigned to College Alc relative to those in the control group (3.25 vs. 3.14, $p = .05$). Effect sizes for these outcomes were small to moderate (0.21-0.41).

DISCUSSION

Computer--and web-based programs aimed at preventing alcohol misuse and alcohol-related harm are now being used by many colleges and universities despite limited research on their effectiveness. This study was one of the first to evaluate such a strategy (College Alc) using a randomized controlled design. Our findings suggest that the abbreviated non-credit version of College Alc had small to moderate effects on students' alcohol-related knowledge and attitudes toward alcohol use, but did not have any effect on other psychosocial variables (e.g., alcohol expectancies), though a trend was observed for intentions to minimize alcohol-related harm. College Alc also had no effect on past-month alcohol use and heavy drinking and alcohol-related problems. These findings suggest that the 3-hour, non-credit version of College Alc may have no effect on students' risk for alcohol misuse and alcohol-related problems.

Additional analyses were conducted to compare students who completed all five sections of College Alc (n = 81) versus those in the control group. Results of those analyses were very similar to results reported in Table 2, casting further doubt on the effectiveness of College Alc. Findings of this study are comparable to a recent evaluation of the 45-minute CD-ROM Alcohol 101 program reported by Donahue and colleagues (2004) and other universal or less-intensive educational alcohol abuse prevention programs developed for college students (Graham, Tattersen, Roberts, & Johnson, 2004; Maddock & Wood, 2000).

This study suggests that even with a monetary incentive, many students will choose not to participate in a self-administered web--or computer-based alcohol misuse and harm prevention program, which may limit the potential of this approach for preventing alcohol misuse and alcohol-related problems. Although some universities claim that programs like AlcoholEdu are now "mandatory" for incoming freshmen, there is often little incentive for students to participate or take the program seriously. In recruiting a university for this study, it quickly became apparent that colleges and universities are reluctant to mandate alcohol courses or programs for the general student population, though most schools we approached were willing to offer College Alc as an elective or encourage students to complete the abbreviated non-credit version of College Alc. Without an adequate incentive (e.g., course credit), even students who "complete" a web-based course like College Alc may not take the course seriously.

Findings of this study should be considered in light of several limitations. Because our sample was not representative, study findings may not generalize to other college freshmen. Attrition from the study may have biased analyses results in unknown ways. A larger sample size probably would have provided more statistical power to detect modest College Alc effects on psychosocial and behavioral outcomes, though the magnitude of effects may not be affected by increasing the sample size. As noted above, College Alc was implemented with less-than-ideal fidelity (i.e., limited student participation, no course credit or instructor to provide structure, feedback, and help to motivate students), which may have limited its effectiveness.

Although findings of this study suggest that the abbreviated noncredit version of College Alc may not have an effect on student-level risk for alcohol misuse and related harm, it may nevertheless complement other campus-wide strategies aimed at reducing the incidence of alcohol misuse and related problems at the campus level. More randomized controlled studies are needed to determine whether our findings are reliable. Additional research is also needed to determine whether College Alc is more or less effective for students at elevated risk for alcohol misuse and related harm (i.e., regular drinkers, members of Greek organizations) relative to infrequent drinkers or abstainers, and whether a more comprehensive for-credit version of College Alc is more effective than the abbreviated non-credit version of College Alc examined in this study.

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Table 1

Baseline Sample Characteristics, Mean (SD) or Percentage

Variable	Total (N = 370)	College Alc (n = 173)
Male (%)	47.6	49.1
Age	18.06 (.31)	18.06 (.33)
Hispanic (%)	16.5	17.9
Asian (%)	41.6	39.3
White (1/6)	30.3	34.1
Black (%)	3.5	1.2
Other (%)	8.1	7.5
Frequency of alcohol use in past 30 days	1.65(1.04)	1.59 (.98)
Frequency of having five or more drinks in past 30 days	1.38 (.94)	1.34 (.88)
Frequency of getting drunk in past 30 days	1.35 (.78)	1.31 (.72)
Alcohol knowledge score (% correct)	35.4 (11.5)	35.6 (11.1)
Positive attitudes toward alcohol use	1.76 (.67)	1.76 (.67)
Positive alcohol expectancies	2.77 (.81)	2.80 (.80)
Negative alcohol expectancies	2.56 (.85)	2.57 (.80)
Normative beliefs: Prescriptive norms	2.37 (1.0)	2.36 (1.0)
Normative beliefs: Descriptive norms	4.72 (1.1)	4.71 (1.1)
Intentions to minimize alcohol-related harm	3.30 (.51)	3.32 (.48)
Negative drinking consequences (a)	5.30 (8.70)	6.55 (14.32)

Control Group

Variable	(n = 197)
Male (%)	46.2

Age	18.06 (.30)
Hispanic (%)	15.2
Asian (%)	43.7
White (1/6)	26.9
Black (%)	5.6*
Other (%)	8.6
Frequency of alcohol use in past 30 days	1.70(1.09)
Frequency of having five or more drinks in past 30 days	1.41 (.98)
Frequency of getting drunk in past 30 days	1.38 (.82)
Alcohol knowledge score (% correct)	35.3 (11.9)
Positive attitudes toward alcohol use	1.76 (.66)
Positive alcohol expectancies	2.74 (.81)
Negative alcohol expectancies	2.56 (.89)
Normative beliefs: Prescriptive norms	2.38 (1.0)
Normative beliefs: Descriptive norms	4.73 (1.1)
Intentions to minimize alcohol-related harm	3.28 (.54)
Negative drinking consequences (a)	5.84 (11.17)

(a) Based on students who engaged in any alcohol use in the last 30 days: College Alc n = 60, Control n = 79.

* p < .05.

Table 2 Adjusted Mean (SD) or Percentage for Each Outcome Variable, by Study Condition

Variable	College Alc (n = 173)	Control Group (n = 197)
Frequency of alcohol use in past 30 days	1.64 (.82)	1.77 (.81)
Frequency of having five or more drinks in past 30 days	1.43 (.87)	1.58 (.87)
Frequency of getting drunk in past 30 days	1.35 (.64)	1.45 (.65)
Alcohol knowledge score (% correct)	42.9 (15.3)	37.5 (11.9)
Positive attitudes toward alcohol use	1.70 (.57)	1.88 (.56)
Positive alcohol expectancies	2.74 (.74)	2.77 (.73)
Negative alcohol expectancies	2.53 (.66)	2.44 (.66)
Normative beliefs: Prescriptive norms	2.38 (.98)	2.44 (1.0)
Normative beliefs: Descriptive norms	4.83 (.96)	4.77 (1.0)
Intentions to minimize alcohol-related harm	3.26 (.54)	3.14 (.55)

Negative drinking
consequences (b) 6.03 (20.29) 9.10 (18.80)

Variable	Effect Size (a)	p-value
Frequency of alcohol use in past 30 days	.15	.14
Frequency of having five or more drinks in past 30 days	.17	.11
Frequency of getting drunk in past 30 days	.16	.13
Alcohol knowledge score (% correct)	.41	.00
Positive attitudes toward alcohol use	.33	.00
Positive alcohol expectancies	.05	.64
Negative alcohol expectancies	.14	.17
Normative beliefs: Prescriptive norms	.06	.37
Normative beliefs: Descriptive norms	.06	.48
Intentions to minimize alcohol-related harm	.21	.05
Negative drinking consequences (b)	.16	.14

Note: Means and percentages are adjusted for corresponding baseline
covariates and race/ethnicity.

(a) Effect sizes were calculated using the following
formula: $[M.sub.College Alc] - [M.sub.control] / [SD.sub.control]$

Based on students who engaged in any drinking in the last 30 days:
College Alc n = 61, Control n = 81.