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# Reducing Alcohol-Related Consequences Among High School Seniors: Efficacy of a Brief, Web-Based Intervention

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## Abstract

The authors examined the efficacy of a brief, web-based personalized feedback intervention on reducing alcohol-related consequences among high school seniors ( $N = 105$ ) using a group-randomized controlled design. Results of repeated measures mixed-models analyses indicated significant intervention effects over time for alcohol-related consequences at 30-day and 6-month follow-up assessments. Drinking risk-status moderated intervention effects such that results were only significant for high-risk drinkers (i.e., students reporting initiation of heavy episodic drinking at baseline).

**Keywords:** high school; alcohol-related consequences; web-based intervention; personalized feedback

According to national survey data, 61% of adolescents in the United States report initiating drinking by the end of high school (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2017). Among high school students, high school seniors report the highest prevalence rate of alcohol, with 33% of seniors reporting alcohol use within the past 30 days and 46% reporting being drunk at least once in their lifetime (Johnston et al., 2017). Additionally, 16% of high school seniors report binge drinking at least once in the past two weeks (Johnston et al., 2017). This high rate of binge drinking is particularly concerning as heavy episodic drinking in high school is the strongest predictor of similar drinking patterns in college (Arria, Kuhn, Caldeira, O'Grady, Vincent, & Wish, 2008). Further, risky patterns of drinking (i.e., pre-partying and playing drinking games) established in high school are predictive of both heavy drinking and alcohol-related consequences among college students (Kenney, Hummer & LaBrie, 2010).

Alcohol use in high school is also associated with a variety of socio-emotional negative consequences including interpersonal problems, unwanted sexual activity (Arata, Stafford, & Tims, 2003), dating violence (Miller, Naimi, Brewer, & Jones, 2007), and suicide attempts (Miller et al., 2007). Further, alcohol use among adolescents aged 12-18 is associated with alcohol-related impaired neurocognitive functioning including deficits in memory, visuospatial ability, and psychomotor speed (Hanson, Medina, Padula, Tapert, & Brown, 2011; Nguyen-Louie et al., 2015). Together, the high prevalence rates of alcohol use and the negative consequences associated with high school drinking suggest that it is important to identify evidence-based intervention programs to disrupt harmful drinking behavior among high school students. Identifying programs appropriate for high school seniors is a priority as the rates of heavy episodic drinking among seniors place them at the highest risk for alcohol-related consequences.

School-based interventions are ideally suited for high school seniors as programs offered in the school setting can reach adolescents who may not readily seek treatment elsewhere (Glass, Grant, Yoon, & Bucholz, 2015; Reavely, Cvetkovski, Jorm, & Lubman; 2010). Recent research indicates Screening, Brief Intervention, and Referral to Treatment (SBIRT; Babor, McRee, Kassebaum, Grimaldi, Ahmed, & Bray, 2007) may be a promising approach for adolescents (Russett, 2016) and can be delivered with fidelity in the school setting (Curtis, McLellan, Gabellini, 2014). A national survey of high school counselors, however, revealed that school counselors reported low levels of training in substance abuse screening, assessment, and individual interventions and limited training opportunities through their school or school districts (Burrow-Sanchez & Lopez, 2009). Thus, interventions delivered through technology can improve both access and intervention fidelity, while requiring little training and reducing costs associated with program implementation (Lord & Marsch, 2011; Marsch & Borodovsky, 2016).

Computer-based alcohol interventions represent a particularly promising approach for high school seniors due to their novelty and game-like appearance which appeal to youth in this age group (Schinke, Schwinn, & Cole, 2006). Studies examining the efficacy of technology-based interventions have shown some efficacy in reducing alcohol use among adolescents (Koning et al., 2011; Koning et al., 2013; Newton et al., 2009; Schwinn et al., 2010). These interventions, however, included 4 – 12 modules or sessions, with each session taking up to 40 minutes. Therefore, brief, one-session technology-based interventions may be better suited for school-based interventions as high schools may have limited curriculum time and staff support for program implementation.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) *CollegeAIM* guide recently identified the eCHECKUP TO GO (San Diego State University Research Foundation, n.d.) as a highly effective, low cost alcohol intervention for college students (National Institute on Alcohol Abuse and Alcoholism, 2015). The eCHECKUP TO GO is a brief, online personalized normative feedback program designed to help students make better choices about their alcohol use. Based on motivational enhancement (Miller & Rollnick, 2013) and social norming approaches (Perkins, 1997), the program is designed to help students make better decisions about their drinking. Specifically, the program provides personalized feedback on peer drinking, positive alcohol beliefs, and positive alcohol expectancies to motivate students to reduce their alcohol use. A list of protective behavioral strategies is also provided (e.g. avoid drinking games, space drinks out over time, alternate alcoholic and non-alcoholic drinks) to decrease heavy drinking and the associated negative consequences. Because the eCHECKUP TO GO program is brief, inexpensive, and requires few resources for implementation, this program is well-suited for dissemination as a school-based intervention.

A significant body of literature supports the efficacy of the eCHECKUP TO GO with college students (Alfonso, Hall, & Dunn, 2013; Doumas & Anderson, 2009; Doumas, Kane, Navarro, & Roman, 2011; Doumas, Workman, Navarro, & Smith, 2011; Doumas, Nelson, DeYoung, & Conrad, 2014; Hustad, Barnett, Borsari, & Jackson, 2010). Based on this body of research, Doumas, Esp, Turrise, & Schottelkorb (2015) suggested that the eCHECKUP TO GO may be a promising approach for reducing drinking and the associated consequences among high school students as high school students often benefit from effective college interventions (Sher & Rutledge, 2007). Findings from recent research conducted with 9<sup>th</sup> grade students provided support for the short-term efficacy of the eCHUG program in reducing alcohol use and alcohol-related consequences (Doumas, Esp, Turrise, Hausheer, & Cuffee, 2014; Hausheer, Doumas, & Esp, in press). Other research, however, suggests short-term effects are not sustained throughout the academic year (Doumas, Hausheer, Esp, & Cuffee, 2014), suggesting that this approach may be less suited for adolescents in this age group.

Because drinking accelerates as high school progress, with high school seniors drinking rates levels beginning to approach those of college students (Johnston et al., 2017), the eCHECKUP TO GO may be more appropriate for high school seniors than 9<sup>th</sup> grade students. Our initial research on the efficacy of the eCHECKUP TO GO program with high school seniors demonstrated a reduction in risk factors associated with alcohol use (i.e., perceptions of peer drinking, positive beliefs about alcohol, and positive alcohol expectancies) among high school seniors receiving the eCHECKUP TO GO program relative to an assessment-only control group (Doumas, Esp, Johnson, Trull, & Shearer, 2017). Additionally, our more recent research examining the short-term efficacy of the eCHECKUP TO GO on reducing alcohol use among high school seniors reported a reduction in weekly drinking quantity, peak drinking quantity, and frequency of drinking to intoxication among students classified as high-risk drinkers compared to an assessment-only control group (Doumas, Esp, Flay, & Bond, 2017). We did not, however, find differences between the two groups in the reduction of alcohol-related consequences at a 6-week follow-up. One explanation for this finding is that reductions in alcohol-related consequences may occur subsequently to reductions in alcohol use,

requiring a longer follow-up period to capture effects for alcohol-related consequences. Alternatively, findings may also indicate that the eCHECKUP TO GO, originally designed for college students, may need to be modified to be effective in reducing consequences for high school seniors.

The purpose of the current study is to extend the literature by examining the efficacy of the eCHECKUP TO GO on reducing alcohol-related consequences among high school seniors across the academic year. To achieve this aim, we conducted a group-randomized controlled trial to evaluate the impact of the eCHECKUP TO GO intervention on alcohol-related consequences at two assessment points (30-day and 6-month follow-ups). Based on the prior literature examining the eCHECKUP TO GO with high school seniors, we hypothesized that 1) there would be no differences in alcohol-related consequences between students receiving the eCHECKUP TO GO program and an assessment-only control group at the 30-day follow-up, and 2) there would be a difference in alcohol-related consequences at the 6-month follow-up, with students in the eCHECKUP TO GO group reporting a reduction in alcohol-related consequences relative to students in the control group. Additionally, several studies with college students (Doumas & Anderson, 2009; Doumas, Kane et al., 2011; Doumas, Nelson, et al., 2014; Walters, Vader, & Harris, 2007) and our preliminary research with high school seniors (Doumas, Esp, Flay, & Bond, 2017) report eCHECKUP TO GO intervention effects for high-risk drinkers only (i.e., those who have initiated heavy episodic drinking at baseline). Based on this literature, we also hypothesized that high-risk drinking status would moderate intervention effects, such that intervention effects would be significant for seniors classified as high-risk drinkers and not significant for seniors classified as low-risk drinkers.

## Method

### Research Design

We used a group-randomized controlled trial design with the intervention delivered at the classroom level. We selected a group-randomized controlled design because this research design is one of the most rigorous methodologies available (Erford, 2015). We randomly assigned class periods to either the eCHECKUP TO GO intervention (4 classrooms) or an assessment-only control condition (4 classrooms). Participants completed 30-day and 6-month follow-up assessments online. All study procedures were approved by the University Institutional Review Board and the School District Research Board.

### Participants

Participants in the current study were high school seniors recruited from one urban high school in the Northwest (see Figure 1 for the participant flow diagram). Demographic information and drinking characteristics by group are provided in Table 1. Overall, 84.0% ( $n = 105$ ) of the 125 participants completed both the 30-day and 6-month follow-up assessments. Chi-square analyses revealed no differences for gender,  $\chi^2(1) = 0.97, p = .32$ , or ethnicity,  $\chi^2(3) = 6.65, p = .08$  (due to small numbers per cells, we collapsed ethnicity into four groups: Caucasian, Asian, Hispanic, and other), between those who completed both follow-up assessments and those who did not. Additionally, there were no differences in the rate of attrition across the two groups,  $\chi^2(1) = 0.05, p = .82$ .

### Procedure

A member of the research team contacted the school counselor at the high school who arranged a meeting with the principal to invite the school to participate in the study. All seniors registered at the school were eligible to participate. The school contacted all parents of seniors via letter by mail at their permanent addresses provided by the registrar's office. The letter contained a parental consent form and a project-addressed, stamped envelope. We asked parents to return signed consent forms indicating permission for their adolescent to participate in the study. We sent reminder letters to the student's home address and sent home with the student to give to the parent. We asked students who received parental consent to assent prior to participating in the baseline survey.

We randomly assigned class periods to the intervention group or control group. Students with parental consent were escorted by school personnel to the computer lab to participate in the study. A member of the research team and a school counselor described the research study and invited the students to participate. Students who agreed to participate were given a unique personal identification number (PIN) to maintain confidentiality and a URL to access the baseline survey. Students then logged onto the survey website where they read a welcome screen explaining the

research and were asked for their assent to participate. Once students gave assent by clicking “Agree,” they were taken to a screen that asked them to enter their PIN and were then directed to begin the baseline survey, which took approximately 20 minutes to complete. Students in the intervention group completed the online intervention program immediately after completing the baseline survey. We invited all participants who completed the baseline survey to participate in online 30-day and 6-month follow-up surveys during classroom time.

## **Measures**

***Demographics.*** A brief demographic questionnaire designed for this study included basic participant characteristics (e.g., gender, race/ethnicity, age).

***Alcohol-Related Consequences.*** We used the Rutgers Alcohol Problem Index (RAPI; White & Labouvie, 1989) to assess alcohol-related consequences. The RAPI is a 23-item self-administered screening tool for assessing adolescent problem drinking. Participants were asked “how many times have the following scenarios happened to you while you were consuming alcohol or as a result of your drinking in the past 30 days.” Responses were measured on a 5-point scale ranging from 0 (*never*) to 4 (*more than 10 times*). A total consequence score is created by summing the 23 items. The RAPI assesses both traditional physical consequences (e.g., tolerance, withdrawal symptoms, physical dependency) and consequences presumed to occur at higher rates among adolescents (e.g., missing school, not doing homework, going to school drunk). The RAPI has good internal consistency (Neal & Carey, 2004) and test-retest reliability (Miller, et al., 2002). Researchers have also demonstrated convergent validity for the RAPI, with correlations ranging from .49 - .67 between the RAPI and a composite score of alcohol-use intensity (i.e., frequency of alcohol use in the last year, typical drinking quantity, and frequency of getting drunk) for participants between ages 15 and 18 (White & Labouvie, 1989). Cronbach’s alpha for the current sample was  $\alpha = .86$ .

***Classification of High-Risk vs Low-Risk Drinkers.*** We also asked participants to report on the frequency of heavy episodic drinking. Heavy episodic drinking was defined as having 5 or more drinks in a two hour period for males and 3 or more drinks in a two hour period for females at least once in the past 2 weeks (Donovan, 2009). We classified participants who reported one or more episodes of heavy episodic drinking in the past 2 weeks as high-risk drinkers ( $n = 31$  high-risk drinkers;  $n = 94$  low-risk drinkers). Although this method of classification is consistent with prior alcohol intervention research, studies have used this timeframes of one week (Chiauzzi, Green, Lord, Thum, & Goldstein, 2005), two weeks (Domas & Anderson, 2009; Domas, Esp, Flay, & Bond, 2017), and one month (Bersamin, Paschall, Fearnow-Kenney, & Wyrick, 2007; Kyprilou et al., 2004; Walters et al., 2007). We selected the 2 week timeframe as this is the timeframe used in the standard measure of binge drinking (Donovan, 2009).

## **The eCHECKUP TO GO Intervention**

The eCHECKUP TO GO is a 30-minute personalized feedback intervention available through the San Diego State University Research Foundation (<http://www.echeckuptogo.com/>). The program is customized for the participating school, including providing normative data for the specific school, referrals for the local community, and designing the website using school colors and logos. The program consists of an online assessment with questions regarding basic demographic information and information on alcohol consumption, drinking behavior, alcohol-related consequences, and beliefs about alcohol. Once all questions are completed, the program provides personalized feedback to participants via text, graphs and video recordings including a summary of the student’s quantity and frequency of drinking, a personal BAC (blood alcohol content) chart, and the number of cheeseburgers equivalent to alcohol calories consumed. Information about the student’s alcohol-associated risk, normative feedback, and a list of personalized strategies that can be used to change drinking behavior are given. The program also provides resources for services in the local community. To ensure the standardized delivery of the program, a member of the research team used an instructional script to read to the participants. Members of the research team were present during the intervention to assist participants and serve as monitors.

## **Power Analysis**

We conducted an a priori power analysis using the G\*Power 3.1.3 program (Faul, Erdfelder, Lang, & Buchner, 2007) for a repeated measures mixed-model analysis (ANOVA) with three time points (baseline; 30-day; 6-month). Results of the power analysis indicated a sample size of 60 is needed for power of  $\geq 0.95$  to detect a medium effect size of .25 for the 3-way interaction effect of Time x Group x Risk-Status with an alpha level of .05. Thus, our final sample size of 105 is greater than the needed size to provide adequate power for our analyses.

## **Statistical Analyses**

We conducted all analyses using SPSS version 24.0. Prior to analysis, we examined the outcome variable for outliers at baseline and follow-up assessments and we adjusted outliers to 3.3 SD above the mean before conducting analyses (Tabachnik & Fidell, 2007). We assessed successful randomization with *t*-tests and chi-square tests examining baseline measures. Because class periods were randomized to treatment, we assessed the importance of incorporating random effects (i.e., participants nested within classroom) using  $AIC_C$  (Burnham & Anderson, 1998) under the restricted maximum likelihood algorithm (REML). We examined the intraclass correlations (ICCs) to evaluate the degree of non-independence among students within the same classroom. The ICC for within classroom was .04 compared to a within student ICC of .56. Due to the small proportion of variance at the classroom level, we determined inclusion of this random effect unnecessary. Thus, our study outcomes were fit with a repeated measures mixed-models analysis with fixed effects of group (intervention; control), time (baseline; 30-day follow-up; 6-month follow-up), and drinking risk-status (high; low).

We then conducted analyses separately for high- and low-risk students to determine the nature of the significant 3-way interactions. We plotted simple slopes to examine the direction and degree of significant interactions testing moderator effects (Aiken & West, 1991). We also conducted post-hoc contrasts within group using paired-sample *t*-tests. We calculated effect size using partial eta squared ( $\eta^2_p$ ) for ANOVA analyses, with .01 considered small, .06 considered medium, and .14 considered large (Cohen, 1969; Richardson, 2011) and using Cohen's *d* for *t*-tests, with .2 considered small, .5 considered medium, and .8 considered large (Cohen, 1969). The researchers set the significance level at  $p < .05$ . We controlled for Type 1 error by using the Holm-Bonferroni procedure (Holm 1979). We selected this method as it corrects for Type I error as effectively as the traditional Bonferroni procedure, but retains more statistical power (Bender & Lange, 2001; Eichstaedt, Kovatch, & Maroof, 2013; Wright, 1992).

## **Results**

### **Randomization Check**

Means and standard deviations for alcohol-related consequences at baseline, 30-day, and 6-month follow-up assessments by intervention group and risk-status are presented in Table 2. Analyses revealed no baseline differences in alcohol-related consequences,  $t(103) = 0.05$ ,  $p = .96$ , between the two groups. We also examined differences on demographic variables between the two study conditions at baseline. Analyses revealed no differences in gender,  $\chi^2(1) = 0.64$ ,  $p = .42$ , ethnicity,  $\chi^2(3) = 0.54$ ,  $p = .91$ , or age,  $t(103) = 0.42$ ,  $p = .68$ , between the two groups.

### **Outcome Analyses**

Results of the repeated measures mixed-models analyses revealed a significant interaction effect for Time x Group, Wilks' Lambda = .94,  $F(2, 103) = 3.12$ ,  $MSE = 7.18$ ,  $p = .05$ ,  $\eta^2_p = .06$ , and for Time x Group x Risk Status, Wilks' Lambda = .91,  $F(2, 103) = 4.78$ ,  $MSE = 7.33$ ,  $p = .01$ ,  $\eta^2_p = .09$ , indicating risk status moderated intervention effects. Follow-up analyses indicated a significant Time x Group interaction for high-risk students from baseline to the 30-day follow-up, Wilks' Lambda = .80,  $F(1, 23) = 5.69$ ,  $MSE = 4.45$ ,  $p = .03$ ,  $\eta^2_p = .21$ , and from baseline to the 6-month follow-up, Wilks' Lambda = .84,  $F(1, 23) = 4.34$ ,  $MSE = 9.30$ ,  $p = .05$ ,  $\eta^2_p = .16$ . In contrast, the follow-up analyses were not significant for low-risk students from baseline to the 30-day follow-up, Wilks' Lambda = .99,  $F(1, 78) = 0.74$ ,  $MSE = 2.34$ ,  $p = .39$ ,  $\eta^2_p = .01$ , or from baseline to the 6-month follow-up, Wilks' Lambda = 1.00,  $F(1, 82) = 0.01$ ,  $MSE = 2.75$ ,  $p = .93$ ,  $\eta^2_p = .00$ .

As seen in Figure 2, high-risk students in the intervention group reported a decrease in alcohol-related consequences at both the 30-day and 6-month follow-up assessments relative to students in the control group. Post-hoc contrasts conducted among high-risk students indicated a significant decrease in alcohol-related consequences within the intervention condition from baseline to the 30-day follow-up,  $t(12) = 2.92, p < .02$ , Cohen's  $d = .84$ , and from baseline to the 6-month follow-up,  $t(12) = 2.84, p < .02$ , Cohen's  $d = .87$ . Post-hoc analyses were not significant within the control condition for baseline to the 30-day follow-up,  $t(11) = -0.48, p = .64$ , Cohen's  $d = -.05$ , or from baseline to the 6-month follow-up,  $t(11) = 0.07, p = .95$ , Cohen's  $d = .03$ .

## Discussion

The purpose of this study was to extend the literature by evaluating the efficacy of a brief, web-based intervention on reducing alcohol-related consequences among high school seniors across the academic year. Results indicate students classified as high-risk drinkers who received the eCHECKUP TO GO program reported reductions in alcohol-related consequences at 30-day and 6-month follow-up assessments. Specifically, high-risk students in the eCHECKUP TO GO group reported a 24.6% and 38.6% reduction in alcohol-related consequences at the 30-day and 6-month follow-up, respectively, compared to an 8.7% increase at the 30-day follow-up and an 8.7% decrease at the 6-month follow-up in the control group. Additionally, effect sizes between groups were medium to large, ranging from  $\eta^2_p = .16 - .21$ , and effect sizes between groups within the high-risk group were large, ranging from Cohen's  $d = .84 - .87$ .

Although results support our hypothesis that there would be group differences in reductions in alcohol-related consequences at the 6-month follow-up, findings did not support our hypothesis regarding the short-term effects. Our finding that students in the eCHECKUP TO GO group reported decreases in alcohol-related consequences relative to the control group at the 30-day follow-up is not consistent with prior research that failed to demonstrate short-term effects for alcohol-related consequences (Doumas, Esp, Flay, & Bond, 2017). One explanation for the inconsistency in findings between the two studies is differences in the study participants. Although the baseline rates of alcohol-related consequences were similar across the studies, the sample in the current study included 56.2% males, whereas the sample in the previously published study included 45.2% males. Based on this finding, we ran follow-up analysis including gender as a moderator and found no significant gender differences in the intervention effects. Despite failure to find gender differences in intervention effects on alcohol-related consequences, it is still possible that differences in gender composition across the two studies may have contributed to the inconsistency in results.

## Limitations and Directions for Future Research

Although this study adds to the literature using the eCHECKUP TO GO with high school seniors, there are limitations. First, generalizability of the results is limited due to the single high school in the study and its associated non-Hispanic White demographic makeup. Second, although our response rate of 36.3% falls within the 30% – 60% range of response rates typical of other studies using active parental consent (Smith et al., 2009), we cannot be certain that the students who participated are representative of the senior population at the school. Response bias should be considered as active parental consent procedures can result in samples that are less diverse, lower-risk (Shaw, Cross, Thomas, & Zubrick, 2014; Smith et al., 2009), and have lower rates of alcohol use (Doumas, Esp, & Hausheer, 2015) than passive consent procedures. Third, students in this study were not blinded to condition, potentially leading to desirability effects impacting study results. Future research with larger and more diverse samples is needed to replicate findings and increase generalizability of the results.

## Implications for Counseling

Our findings have important implications for counselors both inside and outside of high school settings. First, it is important for counselors working with adolescents to be aware of the prevalence of high-risk drinking and alcohol-related consequences among adolescents ages 16-18. Among the high school students in our sample, nearly one quarter (23.8%) reported engaging in one or more episodes of heavy episodic drinking in the past 2 weeks. Further, more than one third (36.2%) reported experiencing one or more alcohol-related consequence in the past 30 days. Among high-risk drinkers, 88.0% reported experiencing one or more alcohol-related consequence in the past 30 days. Because the prevalence of alcohol-related consequences is so high among high school seniors, both school counselors and professional counselors practicing in other settings need to be aware of the importance for screening for heavy episodic drinking and alcohol-related consequences among adolescents in this age range.

Results of this study also suggest that the eCHECKUP TO GO is an efficacious intervention for reducing alcohol-related consequences among high school seniors who report heavy episodic drinking. This study adds to the growing body of research supporting the efficacy of the eCHECKUP TO GO in reducing risk-factors for drinking (Doumas, Esp, Johnson, et al., 2017) and alcohol use (Doumas, Esp, Flay, & Bond, 2017) by demonstrating both short-term (30-days) and sustained effects (6 months) on alcohol-related consequences. Because the eCHECKUP TO GO is easy to disseminate to large groups of students and requires few resources for implementation, this program is well-suited as a school-based intervention for high school seniors. School counselors can advocate for their school to purchase a license for the eCHECKUP TO GO which can be used for an unlimited number of students for the year. School counselors can implement the eCHECKUP TO GO with all seniors through guidance lessons or alcohol and drug prevention modules in health course curricula. Additionally, both school counselors and professional counselors in other settings can provide the eCHECKUP TO GO as a brief intervention to students identified as high-risk drinkers or who have experienced alcohol-related consequences.

### Conclusion

This group-randomized controlled study tested the efficacy of a brief, web-based personalized feedback intervention on reducing alcohol-related consequences among high school seniors across the academic year. Overall, findings provide support for the efficacy of the eCHECKUP TO GO for reducing alcohol-related consequences among high school seniors who report engaging in heavy episodic drinking. Results of this study have important implications for both school counselors and professional counselors in other settings who work with adolescents in this age group.

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Table 1  
Sample Characteristics by Study Group

Characteristics	Control Group (n = 48)	Intervention Group (n = 57)	Total Sample (n = 105)
Age in years, <i>M</i> ( <i>SD</i> )	17.13 (0.39)	17.16 (0.41)	17.14 (0.40)
Gender			
Male	60.4%	52.6%	56.2%
Female	39.6%	47.4%	43.8%
Race/Ethnicity			
White	85.4%	86.0%	85.7%
Hispanic	4.2%	5.3%	4.8%
Asian	6.3%	3.5%	4.8%
African-American	0.0%	1.8%	0.9%
Other	4.1%	3.4%	3.8%
Alcohol Use			
≥ one heavy episodic drinking episode, past two weeks	25.0%	22.8%	23.8%
Alcohol-Related Consequences			
≥ one consequences in past 30 days	35.4%	36.8%	36.2%

*Table 2*  
Differences in Alcohol-Related Consequences by Study Condition and Risk-Status

		Risk-Status		
		Low-Risk <sup>a</sup>	High-Risk <sup>b</sup>	Total <sup>c</sup>
		<i>M (SD)</i>	<i>M (SD)</i>	<i>M(SD)</i>
Control	Baseline	0.94 (2.64)	4.58 (3.66)	1.85 (3.29)
	30-Day Follow-Up	0.28 (0.79)	5.00 (4.00)	1.46 (2.91)
	6-Month Follow-Up	0.65 (2.54)	4.42 (6.02)	1.59 (4.00)
Intervention	Baseline	0.68 (1.77)	5.69 (4.15)	1.83 (3.26)
	30-Day Follow-Up	0.43 (1.50)	3.31 (3.52)	1.09 (2.42)
	6-Month Follow-Up	0.46 (1.44)	2.46 (2.67)	0.91 (1.96)

<sup>a</sup> Control Group  $n = 36$ ; Intervention Group  $n = 44$ .

<sup>b</sup> Control Group  $n = 12$ ; Intervention Group  $n = 13$ .

<sup>c</sup> Control Group  $n = 48$ ; Intervention Group  $n = 57$ .

### Figure Captions

Figure 1  
*Participant Flow Diagram*

Figure 2  
*Means for Baseline, 30-Day Follow-Up, and 6-Month Follow-Up for Alcohol-Related Consequences by Group and Drinking Risk Status*

