

## ABSTRACT

A randomized trial of the E-Chug web-based binge drinking intervention was conducted among college freshmen. Results indicated that participants who received the E-Chug significantly reduced their weekly alcohol consumption, and that this was particularly so for male participants. Implications for web-based approaches to risky alcohol consumption among college students are discussed.

## INTRODUCTION

Despite promising changes in the culture of college drinking among institutions committed to the application of broad-based prevention programs, binge drinking and its consequences continues to present significant challenges. Among the strategies that have shown promise at reducing risky drinking in a cost effective manner are web-based, brief interventions such as the electronic “CHeck Up to Go,” or “E-Chug”, though few randomized trials of web-based interventions have been reported to date. First developed at the University of New Mexico (UNM) as a pencil and paper, motivationally based intervention that provides detailed normative and risk factor feedback, the Chug was converted into a web-based format by researchers at San Diego State University. The “E-Chug” has been made available to colleges on a contract basis. Outcome data on the E-Chug has been promising, although the few trials conducted to date have not employed a follow-up longer than 6 weeks. A randomized, controlled trial of the E-Chug on first-year students with a 90-day follow-up assessment was conducted by CASAA researchers, and is reported here. The study provides a randomized assessment of the E-Chug website, and carries implications for web-based interventions with college students focused on alcohol and other substances.

## METHODS

**Participants.** Participants were 159 freshmen students at the University of New Mexico, 63 male participants (39.6%) and 96 female participants (60.4%). Freshmen were recruited from lower division English course sections, and were followed up at 90 days post baseline assessment.

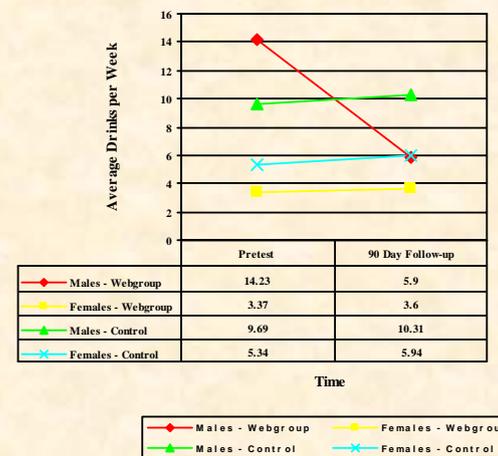
**Design.** A 2 (intervention vs. control group) x 2 (pretest vs. 90 day follow-up) x 2 (male vs. female) mixed factorial design was employed in the study.

**Procedure.** After being recruited from introductory classes, students interested in participating in the trial for a \$15 incentive signed informed consent forms and provided their names and email addresses to the recruiter. Participants were randomly assigned to either the E-Chug website or control conditions, and then were contacted via email within 24 hours and given instructions to either complete and return a brief quantity and frequency form on an attached MS Word document, or to visit the E-Chug website and complete it. Alcohol consumption measures included drinks consumed in the past week, number of drinks on the highest drinking day in the past week, and frequency of binge drinking. At 90 days after the initial baseline assessment, participants were again contacted via email and assessed with a quantity and frequency measure. Upon receipt of the follow-up assessment, students either picked up their incentive directly at the COSAP office or chose to have their incentive applied to their LoboCash accounts, which are student ID card debit accounts used for campus food, books, supplies and other purchases.

## RESULTS

A 2 (level of group) x 2 (level of time) x 2 (level of gender) mixed factor repeated measures Analysis of Variance was utilized in the analyses. ANOVA results yielded a significant group x time crossover interaction ( $F(1,157) = 8.64, p=.004$ ) for drinks per week such that the average drinks/wk for the website group dropped from 8.80 at pretest to 4.78 at 90 day follow-up, while control participants pretest drinks/wk increased from 7.51 at pretest to 8.12 at 90 day follow-up. Further analyses revealed a significant group x time x gender interaction ( $F(1, 155) = 9.69, p=.002$ ) for drinks per week. Means for this three-way interaction indicated that most of the change in drinks per week in the website intervention group occurred among male participants, while females’ drinks per week averages remained relatively low and stable. Figure 1 displays the means for male and female participants in experimental and control groups across pretest to 90 day follow-up. Results for other dependent measures were nonsignificant.

Figure 1:  
Means for Group x Time x Gender Interaction



## SUMMARY

These results show promise for the effectiveness of the E-Chug website, as well as web-based approaches to the prevention of risky alcohol consumption in general. The ANOVA results indicated that those participants who were exposed to the website evidenced substantial reductions in their weekly alcohol consumption. In particular, the three-way interaction results indicated that male participants who received the E-Chug website reduced their average drinks per week by almost 60%, whereas female participants’ drinks per week, regardless of receiving the E-Chug or not, remained relatively stable. These results would suggest that web-based alcohol interventions are more effective for males than females, but further research should explore this possibility. Further research efforts should also examine the longer term impact of the E-Chug. Finally, the results are limited by a lack of impact of the website on binge frequency and high drinking day alcohol consumption. Future research should examine whether there are measurement issues involved here, or there are other possibilities. Overall, this study found support for the effectiveness of web-based interventions.

## ACKNOWLEDGEMENTS

This research investigation was supported by a grant from the U.S. Dept. of Education, Grant #Q184H03014S.