

# The College Drinker's Check-up: Outcomes of two randomized clinical trials of a computer-based intervention<sup>1</sup>

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## ABSTRACT

**Objective:** To evaluate the effectiveness of the College Drinker's Check-up (CDCU) with heavy drinking college students. **Method:** In study 1, 144 students were randomized to either the CDCU or to an assessment-only control group with follow-ups at 1 and 12 months. In study 2, 82 students were randomized to either the CDCU or a *delayed-assessment control* group with follow-up at 1 month. **Results:** *Study 1.* Students in both groups significantly reduced their drinking at follow-ups. At 1 month the CDCU group reduced their drinking to a greater extent on peak blood alcohol concentration (BAC) in a typical week and the mean number of heavy drinks and peak BAC in two heavier episodes of drinking in the previous month. At 12 months the CDCU group continued to reduce their heavier drinking more than the control group on the mean number of drinks and peak BAC in the two heavier episodes in the previous month and had fewer alcohol-related problems. *Study 2.* Compared to the *delayed assessment* control group, the CDCU group significantly reduced their drinking on all drinking measures. **Conclusion:** These data support the effectiveness of the CDCU as a brief motivational intervention for heavy drinking college students. In addition, the significant reductions in drinking in the control group in study 1 and not in study 2 combined with comparable baseline characteristics suggests that the control group in study 1 demonstrated assessment reactivity.

## INTRODUCTION

*Heavy Drinking and Alcohol-Related Problems in College Students.* Heavy drinking by college students is on the increase and alcohol-related problems among college students are significant. Hingson and colleagues (2002) summarized results of national surveys of college drinking and mortality and morbidity. With heavy drinking defined as 5 or more drinks/occasion for males and 4 or more for females, 40% of college students drank heavily at least once in the previous two weeks in 1999. Alcohol related problems are significant: *Each year* there are an estimated 1,400 deaths, 500,000 injuries, more than 600,000 assaults (by another student who's been drinking), 70,000 reported incidents of sexual assault or date rape, 400,000 incidents of unprotected sex, and more than 100,000 incidents of students being too intoxicated to know if they consented to sex (Hingson et al., 2002). Academic problems are also common. About 25% of college students report some alcohol related consequences from their drinking (e.g., missed classes, poor performance on exams, lower grades overall). More than 150,000 students develop alcohol-related health problems each year.

We developed the CDCU as a computer-based brief motivational intervention and as an innovative way to intervene with heavy drinking college students.

*The CDCU program.* The protocol first screens for heavy drinking. Students who screen positive are given personalized feedback and invited to use the rest of the program which takes about 35 minutes. The modules include: a decisional balance exercise, a comprehensive assessment of drinking, alcohol-related problems, and risk factors for future alcohol-related problems. Personalized feedback includes quantity and frequency compared to their gender specific fellow students at their University, BAC feedback, and feedback on how their frequency of alcohol-related problems compared to other students at their school. The final module, Consider Your Options, helps them resolve their ambivalence about changing and to develop a plan of action to reduce their drinking and risk for alcohol-related problems.

## HYPOTHESIS

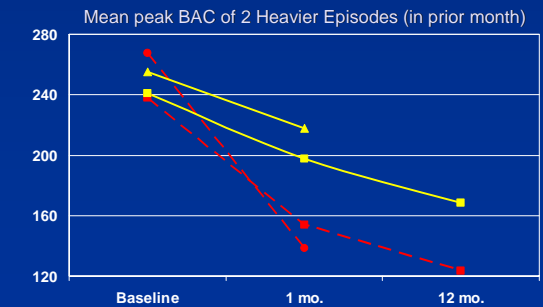
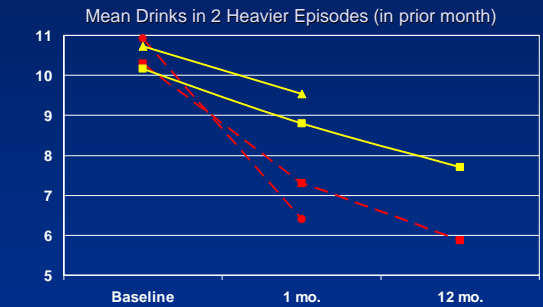
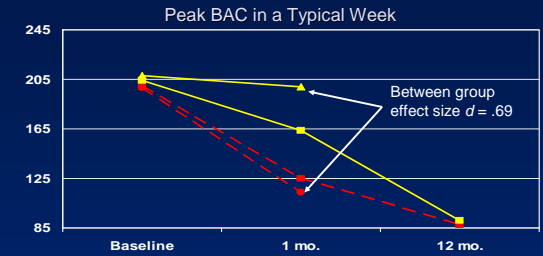
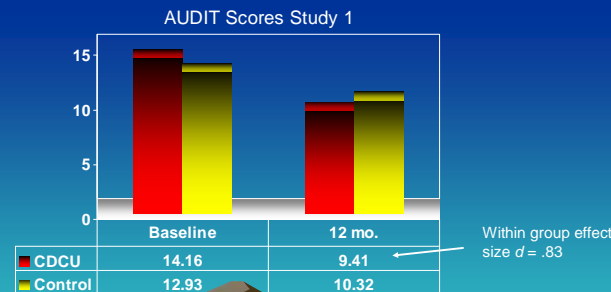
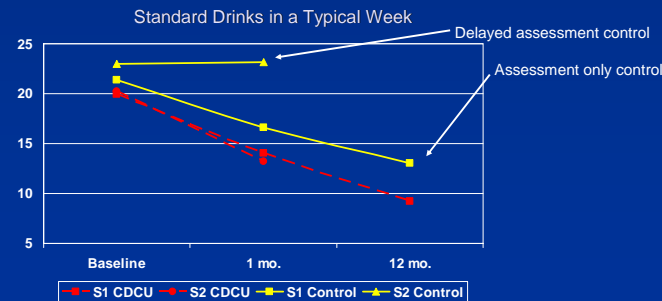
1. The experimental groups will show a greater reduction in consumption and alcohol-related problems relative to the control groups at follow-ups.

## METHODS

*Inclusion and Exclusion criteria, Consort Flow Chart, Demographics, Assessment & Randomization:* Please see the handout. In Study 1 the control group was assessment-only. In Study 2 the experimental group was compared to a *delayed-assessment* control group. We conducted Study 2 after detecting assessment reactivity in the control group in Study 1.

## RESULTS

Dependent Variable	F and p Values for ANCOVA Test of Treatment Effect					
	Study 1 CDCU vs. Assessment only Control Group				Study 2 CDCU vs. Delayed Assess. Control Group	
	1 Month Post		12 Months Post		1 Month Post	
	F(1,137)	p	F(1,127)	p	F(1,78)	p
Drinks per Week	0.41	.522	4.12	.044	7.38	.008
Peak BAC in a Typical Week	5.88	.017	3.24	.074	12.85	.001
Av Heavier Drks	5.82	.017	5.46	.021	16.65	.001
Av Heavier BAC	6.85	.010	5.21	.024	19.12	.001
AUDIT scores			3.38	.068		



## DISCUSSION

The outcomes support our hypothesis that heavy drinking college students who are given the CDCU will reduce their drinking and alcohol-related problems. The greatest reductions were on variables that measured heavier drinking episodes in the previous month. These reductions are clinically as well as statistically significant.

What was unexpected was the significantly reduced drinking in the assessment-only control group in study 1. This prompted us to conduct study 2 with a *delayed-assessment* control group to factor out assessment reactivity. The influence of assessment reactivity may be masking the effect sizes of brief motivational interventions in other studies with college students as well.

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