



# Evaluation of an Expectancy Challenge Curriculum in Reducing High-Risk Alcohol Use Among College Students When Modified for Large Class Sizes

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## Introduction

- Alcohol use has repeatedly been recognized as the primary public health concern impacting students on college campuses contributing to over 1,700 deaths and almost 700,000 assaults among college students each year (Hingson, et al., 2005).
- One promising area of research has focused on modifying alcohol expectancy processes in an effort to reduce risky alcohol use. Referred to as "Expectancy Challenge" (e.g., Darkes & Goldman, 1993, 1998), these studies achieved significant decreases in alcohol consumption among heavy-drinking college students by undermining those expectancies that are least consistent with the pharmacology of alcohol.
- Despite being identified in the Surgeon General's 2002 "Call to Action" as the only empirically validated prevention method designed for delivery to groups of students rather than individuals, several issues prevented widespread implementation of expectancy challenge (see Cruz & Dunn, 2003, Lau-Barraco & Dunn, 2008). The most difficult barrier was the reliance on an alcohol administration exercise to demonstrate the independence of expectancy effects from actual alcohol consumption. Although effective, the drinking exercise is clearly impractical for any program implemented outside research laboratories.
- In an effort to address practical limitations of expectancy challenge with alcohol administration, we conducted a series of studies aimed at developing an effective expectancy-based method that could produce similar reductions in risky alcohol use when delivered to large groups of students in a single session without any alcohol administration. The present study was focused on modifying our Expectancy Challenge Alcohol Literacy Curriculum (ECALC), to be suitable for delivery to large college classes with 100 or more students without reduction in effectiveness in reducing risky alcohol use.

## Methods

### PARTICIPANTS:

- 407 students (122 males, 285 female) undergraduate students enrolled in a lecture format courses from a large southeastern University.
- Age:** 19.90 years ( $SD = 2.98$ )
- Ethnicity:** 69.4% Caucasian, 13.9% Hispanic, 7.0% African-American, 4.2% Asian-American, 5.5% "other"

### MEASURES:

- Timeline Followback** (TLFB; Sobell & Sobell, 1992) used to establish typical drinking over 30-day period using self-identified historical reference points to enhance recall.
- Comprehensive Effects of Alcohol Scale** (CEOA; Fromme, et al., 1993) used to assess alcohol expectancy processes before and after protocol presentation.

## Methods (continued)

### PROCEDURE:

- Participants were randomly assigned to experimental or control conditions at the class level. All participants completed baseline measures (TLFB and CEOA) during regularly scheduled class time. Measures were followed by the Expectancy Challenge Alcohol Literacy Curriculum (ECALC) or a regularly scheduled lecture. The CEOA was administered again immediately after intervention or scheduled lecture to assess expectancy changes.
- Participants in the experimental condition completed measures and a word list activity to orient them to their personally relevant alcohol expectancies. They then experienced an attention maintaining presentation about alcohol, common misconceptions about its effects, and its actual pharmacology. The program ended with a return to the personalized word list to eliminate experiences due to "expected" effects, leaving only the actual pharmacological effects of alcohol.
- A one-month follow-up was conducted with all participants including the same expectancy measure and another timeline follow-back to collect drinking information. All survey measures were anonymous.

## Results

Repeated Measures Analysis of Variance revealed a significant changes in key expectancies [ $F(7, 382)=8.33, p<.001$ ]

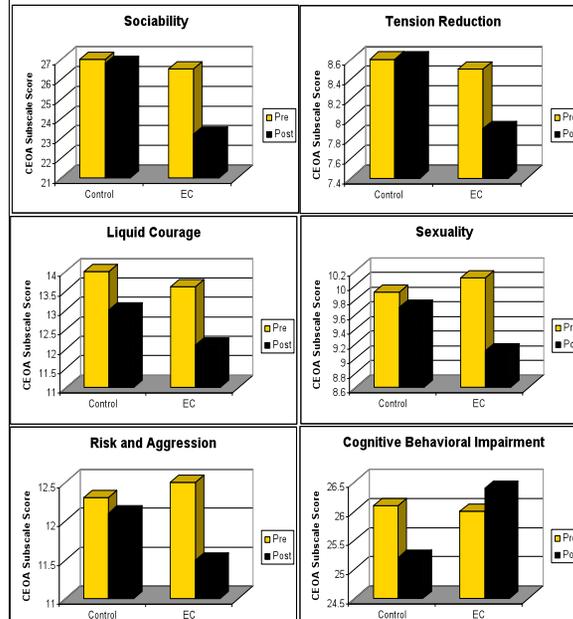


Figure 1. CEOA Subscale Scores pre- and post-intervention

## Results (continued)

Repeated Measures Analysis of Variance revealed a significant Time x Group x Gender interaction [ $F(1, 291)=5.17, p < .05$ ]

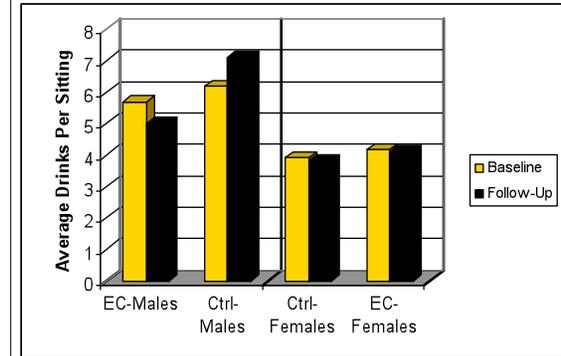


Figure 2. Average Drinks Per Sitting at Baseline and 1-month Follow-up

## Discussion

- The large classroom-based Expectancy Challenge was successful in changing key alcohol expectancies and reduced subsequent alcohol use as a result, compared to the control group. Both males and females who received the curriculum reported significantly altered expectancy processes as evidenced by changes on six of the seven subscales. A significant reduction in average drinks per sitting for males in the expectancy challenge group as compared to the control group also was observed, while females remained relatively unchanged.
- This study represents an important step forward in manipulation of expectancies outside of a simulated bar lab and alcohol administration. It also represents significant progress toward a protocol that could be practically disseminated to educational institutions as a cost-effective, brief, and validated strategy for reducing risky alcohol consumption in the college population
- An important limitation is the low proportion of heavy, high-risk drinkers within the sample. It may be difficult to adequately detect drinking changes when participants are not drinking regularly.
- Future research efforts should focus on evaluating the protocol with a target population of high-risk drinkers and use of extended follow-up periods to measure the sustainability of intervention effects.

Questions, comments?  
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