

Alcohol Literacy Challenge

Alcohol Literacy Challenge (ALC) is a brief classroom-based program designed to alter alcohol expectancies and reduce the quantity and frequency of alcohol use among high school and college students. Alcohol expectancies are an individual's beliefs about the anticipated effects of alcohol use, including those that are positive (e.g., increased sociability, reduced tension) and negative (e.g., impairments to mental and behavioral functioning, increased aggressiveness or risk taking). Some of the most desired effects--the arousing, positive, and prosocial effects--are placebo effects rather than pharmacological ones. ALC aims to correct erroneous beliefs about the effects of alcohol, decreasing positive and increasing negative expectancies. These shifts in expectancies have been shown to predict lower levels of alcohol use.

During a one-time ALC lesson, students learn about standard drinks, the range of alcohol expectancies, the difference between pharmacological effects and placebo effects, and efforts by alcohol companies to portray positive alcohol expectancies in advertisements. Part of the lesson involves watching video clips of commercials advertising alcohol. Students deconstruct the advertisements, identifying the positive alcohol expectancies conveyed and discussing the contradictions between those expectancies and alcohol's pharmacological and behavioral effects. In the high school version of ALC, students also divide into teams and assess the alcohol effects portrayed in alcohol-related video clips, earning points for correct answers.

The intervention, which requires 90 minutes for the high school version and 50 minutes for the college version, can be incorporated into an existing course (e.g., health education) and implemented in one or two class periods. Because the intervention is designed to challenge the unique expectancies of each participating student, it can be used across different populations and cultural groups. The intervention is implemented by teachers at the high school level and students at the college level. A 5-hour training is required for implementers and provides all materials needed to deliver the intervention. Versions of the intervention also are available for use with elementary and middle school students, although these versions were not included in the research reviewed for this summary.

Descriptive Information

Areas of Interest	Substance abuse prevention
Outcomes	Review Date: June 2012 1: Alcohol expectancies 2: Alcohol consumption
Outcome Categories	Alcohol
Ages	13-17 (Adolescent) 18-25 (Young adult)
Genders	Male Female
Races/Ethnicities	American Indian or Alaska Native Asian Black or African American Hispanic or Latino Native Hawaiian or other Pacific Islander White Race/ethnicity unspecified
Settings	School
Geographic Locations	Suburban
Implementation	The intervention was first implemented in two Orlando-area elementary schools in 2002. Subsequently,

History	versions were created for middle school, high school, and college students. Over 15,000 students have received the intervention in Florida and New Mexico.
NIH Funding/CER Studies	Partially/fully funded by National Institutes of Health: No Evaluated in comparative effectiveness research studies: No
Adaptations	No population- or culture-specific adaptations of the intervention were identified by the developer.
Adverse Effects	No adverse effects, concerns, or unintended consequences were identified by the developer.
IOM Prevention Categories	Universal

Quality of Research

Review Date: June 2012

Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

Study 1

Sivasithamparam, J. (2011). Evaluation of the Expectancy Challenge Alcohol Literacy Curriculum (ECALC) for reducing alcohol use among high school students. Unpublished doctoral dissertation, University of Central Florida, Orlando.

Study 2

Fried, A. (2010). Evaluation of an expectancy challenge presentation in reducing high-risk alcohol use among Greek affiliated college students. Unpublished master's thesis, University of Central Florida, Orlando.

Supplementary Materials

[Del Boca, F. K., & Darkes, J. \(2003\). The validity of self-reports of alcohol consumption: State of the science and challenges for research. *Addiction*, 98\(Suppl. 2\), 1-12.](#) 

[Fromme, K., Stroot, E., & Kaplan, D. \(1993\). Comprehensive effects of alcohol: Development and psychometric assessment of a new expectancy questionnaire. *Psychological Assessment*, 5\(1\), 19-26.](#)

[Sobell, L. C., & Sobell, M. B. \(2005\). Alcohol consumption measures. In: J. P. Allen & V. B. Wilson \(Eds.\), *Assessing alcohol problems: A guide for clinicians and researchers* \(2nd ed., pp. 75-99\). Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism. Available at <http://pubs.niaaa.nih.gov/publications/AssessingAlcohol/index.pdf>](#)

[Sobell, M. B., Sobell, L. C., Klajner, F., Pavan, D., & Basian, E. \(1986\). The reliability of a timeline method for assessing normal drinker college students' recent drinking history: Utility for alcohol research. *Addictive Behaviors*, 11\(2\), 149-161.](#) 

Outcomes

Outcome 1: Alcohol expectancies

Description of Measures

Alcohol expectancies were measured using the Comprehensive Effects of Alcohol questionnaire. The 38-item questionnaire assesses beliefs about the positive and negative effects of alcohol use. The items, which begin with, "If I were under the influence of alcohol...", form 7 scales. Four scales reflect positive effects--Sociability ("I would be outgoing"), Tension Reduction ("my body would be relaxed"), Liquid Courage ("I would be courageous"), and Sexuality ("I would feel sexy"), and 3 scales reflect negative effects--Cognitive and Behavioral Impairment ("my senses would be dulled"), Risk and Aggression ("I would act aggressively"), and Self-Perception ("my problems would seem worse"). All answers are given on a 4-point Likert scale ranging from 1 (disagree) to 4 (agree). The questionnaire was administered at pretest and posttest (immediately after the intervention).

Key Findings

In one study, 11th- and 12th-grade students from three high schools were randomly assigned to the intervention or control group. The control group received an interactive presentation with a focus on expectancies related to body image rather than alcohol use. Analyses were performed separately for students who reported past-month drinking at pretest and/or follow-up and students who reported abstaining at both timepoints. Among students who reported drinking, those in the intervention group had a significant increase in agreement with the negative effects of alcohol described in the Cognitive and Behavioral Impairment subscale ($p = .042$) compared with

those in the control group. This finding had a small effect size (partial eta-squared = .050). This significant difference between the intervention and control group on the Cognitive and Behavioral Impairment subscale was also found among nondrinking students ($p = .039$) with a small effect size (partial eta-squared = .053).

In another study, four fraternities and four sororities from the same university were randomly assigned to the intervention or control group. The control group received an interactive presentation with a focus on expectancies related to body image rather than alcohol use. Analyses included only students who reported past-month drinking at pretest and/or follow-up. Compared with students in the control group, those in the intervention group had a significant decrease in agreement with the positive effects of alcohol described in the Sociability, Tension Reduction, Liquid Courage, and Sexuality subscales ($p < .01$ for all analyses).

Studies Measuring Outcome	Study 1, Study 2
Study Designs	Experimental
Quality of Research Rating	3.3 (0.0-4.0 scale)

Outcome 2: Alcohol consumption

Description of Measures	Alcohol consumption was measured using the Timeline Followback (TLFB) procedure, a calendar-based, self-report method for retrospectively estimating alcohol consumption over a specified time period. Students recorded on a calendar the number of drinks they consumed and the duration of each drinking episode during the past 30 days. Blood alcohol concentration (BAC) was estimated using the respondent's drinking data, gender, and weight. The TLFB procedure was used before the intervention and 30 days after the intervention.
Key Findings	<p>In one study, 11th- and 12th-grade students from three high schools were randomly assigned to the intervention or control group. The control group received an interactive presentation with a focus on expectancies related to body image rather than alcohol use. Analyses included only students who reported past-month drinking at pretest and/or follow-up. Compared with students in the control group, those in the intervention group had significant decreases in the following:</p> <ul style="list-style-type: none"> • Average estimated BAC ($p = .025$), a finding with a small effect size (partial eta-squared = .050) • Average number of drinks consumed in one sitting ($p < .001$), a finding with a large effect size (partial eta-squared = .156) • Peak number of drinks consumed in one sitting ($p = .009$), a finding with a medium effect size (partial eta-squared = .068) • Average number of drinking days per week ($p = .01$), a finding with a medium effect size (partial eta-squared = .065) <p>In another study, four fraternities and four sororities from the same university were randomly assigned to the intervention or control group. Students in the control group received an interactive presentation with a focus on expectancies related to body image rather than alcohol use. Analyses included only students who reported past-month drinking at pretest and/or follow-up. Compared with students in the control group, those in the intervention group had significant decreases in the average estimated weekly peak BAC ($p < .001$), average number of drinks consumed in one sitting ($p < .001$), peak number of drinks consumed in one sitting ($p < .001$), average number of drinking days per week ($p < .001$), and average number of drinks consumed per week ($p < .01$).</p>
Studies Measuring Outcome	Study 1, Study 2
Study Designs	Experimental
Quality of Research Rating	3.3 (0.0-4.0 scale)

Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race/Ethnicity
Study 1	13-17 (Adolescent)	50.5% Female	71.4% White

		49.5% Male	28.3% Hispanic or Latino 13.5% Black or African American 11% Race/ethnicity unspecified 3% Asian 0.8% American Indian or Alaska Native 0.3% Native Hawaiian or other Pacific Islander
Study 2	18-25 (Young adult)	50.6% Female 49.4% Male	83.1% White 13% Hispanic or Latino 2.5% Race/ethnicity unspecified 1.1% Asian 0.3% Black or African American

Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

1. Reliability of measures
2. Validity of measures
3. Intervention fidelity
4. Missing data and attrition
5. Potential confounding variables
6. Appropriateness of analysis

For more information about these criteria and the meaning of the ratings, see [Quality of Research](#).

Outcome	Reliability of Measures	Validity of Measures	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Overall Rating
1: Alcohol expectancies	4.0	3.8	2.2	3.0	2.8	4.0	3.3
2: Alcohol consumption	3.8	4.0	2.2	3.0	2.8	4.0	3.3

Study Strengths

Both the Comprehensive Effects of Alcohol questionnaire and the Timeline Followback procedure are well-established instruments with acceptable levels of reliability (internal consistency and temporal stability) and validity (construct and criterion). Some steps were taken to maximize uniform application of the intervention (e.g., delivery by the same person, use of a scripted protocol and standardized prompts). Attrition and missing data were low in one study. In both studies, appropriate analysis was performed to compare the characteristics of study completers and noncompleters, revealing no difference between the two groups. In one study, confounding variables were addressed adequately. The analysis in both studies was thorough and appropriate.

Study Weaknesses

No effort was made to measure intervention fidelity. In one study, attrition was high. In the same study, there were baseline differences between treatment groups on the Self-Perception subscale of the Comprehensive Effects of Alcohol questionnaire.

Readiness for Dissemination

Review Date: June 2012

Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the intervention and the availability of additional, updated, or new materials.

Peter D. & Company, Inc. (2011). Alcohol Literacy Challenge: College edition [CD-ROM]. Author.

Peter D. & Company, Inc. (2011). Alcohol Literacy Challenge: High school edition [CD-ROM]. Author.

Program Web site, <http://www.medialiteracy.net>

Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the intervention's Readiness for Dissemination using three criteria:

1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see [Readiness for Dissemination](#).

Implementation Materials	Training and Support Resources	Quality Assurance Procedures	Overall Rating
3.5	3.5	3.5	3.5

Dissemination Strengths

The implementation manual is comprehensive and user friendly. The PowerPoint lessons and corresponding talking points for implementers are clear and convey the program's message in a clever and powerful way. An initial on-site training is required for implementers; refresher Webinar trainings and videos of the developer presenting each lesson offer further support to implementers. Program fidelity checklists and numerous evaluation tools are provided to support quality assurance. The developer will help identify a local, qualified evaluator for sites that need evaluation assistance.

Dissemination Weaknesses

The college lesson appears to be more age appropriate for incoming freshman than for older students. No information is provided on how trainers assess the practice presentations done during training. Limited guidance is provided on scoring and interpreting data collected with the Peer Presenter Fidelity Evaluation Tool, which is used in the college version.

Costs

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

Item Description	Cost	Required by Developer
6-hour, on-site training on the elementary school, middle school, high school, or college version (includes CD-ROM with implementation manual, lesson, PowerPoint presentations, and quality assurance materials)	\$5,000 per site for an unlimited number of participants, plus travel expenses	Yes
Annual program license	\$1 per student, with a \$225 minimum per year	Yes
Access to the password-protected support section of the program Web site (includes booster training videos; sample presentation videos; and grant-writing, fidelity, and evaluation tools)	Included in the cost of training	No
Phone and email technical assistance and consultation	Free	No
Additional coaching via Webinar	\$200 per hour	No

Replications

Selected citations are presented below. An asterisk indicates that the document was reviewed for Quality of Research.

Cruz, I. Y. (2006). Reducing alcohol consumption among high school students by challenging alcohol expectancies. Unpublished doctoral dissertation, University of Central Florida, Orlando.

Sivasithamparam, J., Hall, T. V., & Dunn, M. E. (2008, June). CALC 101: The Collegiate Alcohol Literacy Curriculum as a prevention approach for high risk drinking in first-year college students. Poster presented at the annual meeting of the American College Health Association, Orlando, FL.

Contact Information

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Consider these [Questions to Ask](#) (PDF, 54KB) as you explore the possible use of this intervention.

Web Site(s):

- <http://www.medialiteracy.net>

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