

Excellence in Prevention – descriptions of the programs and strategies with the greatest evidence of success

Name of Program/Strategy: Project ALERT

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1. Overview and description

Project ALERT is a school-based prevention program for middle or junior high school students that focuses on alcohol, tobacco, and marijuana use. It seeks to prevent adolescent nonusers from experimenting with these drugs, and to prevent youths who are already experimenting from becoming more regular users or abusers. Based on the social influence model of prevention, the program is designed to help motivate young people to avoid using drugs and to teach them the skills they need to understand and resist pro-drug social influences. The curriculum is comprised of 11 lessons in the first year and 3 lessons in the second year. Lessons involve small-group activities, question-and-answer sessions, role-playing, and the rehearsal of new skills to stimulate students' interest and participation. The content focuses on helping students understand the consequences of drug use, recognize the benefits of nonuse, build norms against use, and identify and resist pro-drug pressures.

2. Implementation considerations (if available)

3. Descriptive Information

Areas of Interest	Substance abuse prevention
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Outcomes	1: Substance use (alcohol, tobacco, and marijuana) 2: Attitudes and resistance skills related to alcohol, tobacco, and other drugs
Outcome Categories	Alcohol Drugs Education Family/relationships Mental health Tobacco
Ages	13-17 (Adolescent)
Genders	Male Female
Races/Ethnicities	American Indian or Alaska Native Asian Black or African American Hispanic or Latino White Race/ethnicity unspecified
Settings	School
Geographic Locations	Urban Suburban Rural and/or frontier
Implementation History	Two major evaluations of Project ALERT have been undertaken, both by Dr. Phyllis Ellickson and colleagues at RAND Corporation. The first major evaluation (data set 1) involved 30 middle schools in 8 urban, suburban, and rural communities in California and Oregon. The schools were randomly assigned to two treatment conditions (teacher-led, teacher plus teen leaders) and one control condition. The second major evaluation (data set 2) involved 55 middle schools in South Dakota, representing a wide variety of Midwestern communities. These schools were randomly assigned to one treatment and one control condition. Broad dissemination of Project ALERT began in 1995. Since then, more than 50,000 teachers have been trained to deliver the intervention in an estimated 3,500 U.S. school districts.
NIH Funding/CER Studies	Partially/fully funded by National Institutes of Health: No Evaluated in comparative effectiveness research studies: No
Adaptations	Project ALERT curriculum materials are available in Spanish. A Peer Teen Leader Component also is available and can be downloaded free of charge from the Project ALERT Web site (http://www.projectalert.com/). This implementation approach involves high school students in the delivery of the middle school program. Overall, Project ALERT is designed to be adaptive to the background

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	and experiences of students in each classroom and to the changes in the broader social and cultural climate that surrounds them. Because the curriculum is highly participatory (students are asked questions and are involved in group activities and skits), it can vary from one classroom to another. Teachers are trained to respond to the changing input and feedback of students over time and from group to group. Designed adaptation therefore can take place in the hands of adept teachers.
Adverse Effects	The most committed smokers reacted negatively to an early version of the curriculum, smoking more than their counterparts in the control condition. In response to this observed boomerang effect, the curriculum was revised to include a smoking cessation lesson designed to bring these more committed smokers back into the classroom psychologically and to improve their response to the program. Results show that the revised curriculum (the only version that has ever been distributed to schools) has no adverse effects and, in fact, has a positive impact on these high-risk early smokers.
IOM Prevention Categories	Universal Selective

4. Outcomes

Outcome 1: Substance use (alcohol, tobacco, and marijuana)

Description of Measures	For alcohol, cigarettes, and marijuana, student questionnaires asked about lifetime use, frequency of use within the past month and year, and the amount used. Students were also asked if they had suffered negative consequences due to the use of these drugs (e.g., missed school, did something they later felt sorry for, got into trouble at home or at school).
Key Findings	In multiple randomized control group studies, Project ALERT produced lasting outcomes for participants from a variety of ethnic and economic backgrounds who were at low, moderate, or high risk for alcohol, tobacco, or marijuana use. Overall, Project ALERT was equally effective when taught solely by classroom leaders and when teen leaders were included in classroom delivery. Analyses at the end of grade 8 (15 months after baseline) assessed students by risk level for future drug use. Among students who had tried neither cigarettes nor marijuana at the beginning of 7th grade, Project ALERT participants were nearly 50% less likely than other students to become current marijuana users by 8th grade. After incorporation of the 8th-grade booster

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	<p>sessions, this figure increased to more than 60%. Project ALERT participants were 30% less likely than other students to begin using marijuana. All of these findings were statistically significant ($p < .05$).</p> <p>For alcohol use, Project ALERT initially produced only modest, short-lived reductions. However, the revised Project ALERT, which incorporated additional material on alcohol, reduced the likelihood of alcohol use by 24%. Participants in the revised Project ALERT schools were also less likely to suffer alcohol-related consequences such as fighting and getting in trouble at home or school because of drinking ($p < .05$). These effects continued into the 8th grade.</p> <p>The revised Project ALERT curriculum also had preventive effects on alcohol, cigarette, and marijuana use among students who had tried these substances by 7th grade ($p < .05$).</p>
Studies Measuring Outcome	Study 1, Study 2, Study 3, Study 4, Study 5, Study 6
Study Designs	Experimental
Quality of Research Rating	4.0 (0.0-4.0 scale)

Outcome 2: Attitudes and resistance skills related to alcohol, tobacco, and other drugs

Description of Measures	This outcome was measured by student surveys. The surveys inquired about risk and protective factors such as student awareness of consequences of substance use, beliefs about the prevalence of substance use and its acceptability to others, resistance self-efficacy, and expectations of substance use in the next 6 months.
Key Findings	<p>In multiple randomized control group studies, analyses of program effects on attitudinal risk factors showed that Project ALERT dampened pro-drug beliefs about cigarette and marijuana use (low resistance self-efficacy, low perceived consequences of use, tolerance of drugs, expectations of future use, and low estimates of peer drug use). Effect sizes for beliefs about cigarette and marijuana use, calculated as the standardized adjusted mean difference between groups, were small for all students combined (0.07-0.17) and for students at different risk levels (0.07-0.27). The curriculum had a more limited impact on beliefs about alcohol. Although Project ALERT's effects on drug use dissipate in high</p>

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	school, its effects on knowledge and beliefs persist during the high school years. In 10th grade, former ALERT participants were more likely than other students to believe that drug use has negative social consequences and produces dependency, that resistance has benefits, and that fewer peers use and approve of use. Effects on beliefs about the risk of dependency, social consequences of use, and lower peer use continued into 12th grade.
Studies Measuring Outcome	Study 1, Study 2, Study 3, Study 4, Study 5, Study 6
Study Designs	Experimental
Quality of Research Rating	4.0 (0.0-4.0 scale)

5. Cost effectiveness report (Washington State Institute of Public Policy – if available)

<p>Benefits minus cost, per participant Benefits and Costs of Prevention and Early Intervention Programs for Youth – 2004 update. <i>Washington State Institute for Public Policy,</i> http://www.wsipp.wa.gov/pub.asp?docid=04-07-3901.</p> <p>Costs and Benefits of Prevention and Early Intervention Programs for At-Risk Youth: Interim Report – 2003. <i>Washington State Institute for Public Policy,</i> http://www.wsipp.wa.gov/pub.asp?docid=03-12-3901.</p>	<p>According to the WSIPP study, this program strategy returns</p> <p><u>\$54</u></p> <p>in savings that would otherwise be associated with education, substance abuse, teen pregnancy, child abuse and neglect, or criminal justice system.</p>
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6. Washington State results (from Performance Based Prevention System (PBPS) – if available)

Scale	Result	Direction	N	Instruments used for this program
Refusal Skills	significant	improvement	3106	AM Refusal Skills [Y4]
Refusal Skills	significant	improvement	1463	Healthy Decisions Survey - Middle School [APMY01], Refusal Skills [Y4i]
Peer Use	significant	improvement	2612	PPG-Individual/Peer [PPG03]
Risk of Use	significant	improvement	8298	Healthy Decisions Survey - Middle School [APMY01], PPG-Individual/Peer [PPG03], RM Individual/Peer [PPG03B]
Disapproval of Use (peer)	significant	improvement	7346	PPG-Individual/Peer [PPG03], RM Individual/Peer [PPG03B]

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7. Where is this program/strategy being used (if available)?

Washington Counties	Oregon Counties
Benton/Franklin, Chelan/Douglas, Grays Harbor, Jefferson, King, Klickitat, Pierce, Quinault Nation, Thurston/Mason, Yakima	

8. Study Populations

The studies reviewed for this intervention included the following populations, as reported by the study authors.

Study	Age	Gender	Race/Ethnicity
Study 1	13-17 (Adolescent)	51% Female 49% Male	71% White 10% Asian 9% Hispanic or Latino 8% Black or African American 2% American Indian or Alaska Native
Study 2	13-17 (Adolescent)	51% Female 49% Male	71% White 10% Asian 9% Hispanic or Latino 8% Black or African American 2% American Indian or Alaska Native
Study 3	13-17 (Adolescent)	51% Female 49% Male	71% White 10% Asian 9% Hispanic or Latino 8% Black or African American 2% American Indian or Alaska Native

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Study 4	13-17 (Adolescent)	51% Female 49% Male	71% White 10% Asian 9% Hispanic or Latino 8% Black or African American 2% American Indian or Alaska Native
Study 5	13-17 (Adolescent)	50% Female 50% Male	87.5% White 8.6% American Indian or Alaska Native 3.9% Race/ethnicity unspecified
Study 6	13-17 (Adolescent)	50% Female 50% Male	87.5% White 8.6% American Indian or Alaska Native 3.9% Race/ethnicity unspecified

9. Quality of Research

The documents below were reviewed for Quality of Research. Other materials may be available. For more information, contact the developer(s).

Study 1

Ellickson, P. L., & Bell, R. M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science*, 247, 1299-1305. (data set 1)

Study 2

Ellickson, P. L., Bell, R. M., & Harrison, E. R. (1993). Changing adolescent propensities to use drugs: Results from Project ALERT. *Health Education Quarterly*, 20(2), 227-242. (data set 1)

Study 3

Ellickson, P. L., Bell, R. M., & McGuigan, K. (1993). Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health*, 83(6), 856-861. (data set 1)

Study 4

Ellickson, P. L., Bell, R. M., Thomas, M. A., Robyn, A. E., & Zellman, G. L. (1988). Designing and implementing Project ALERT: A smoking and drug prevention experiment. The RAND Corporation, R-3754-CHF, December. (data set 1)

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Study 5

Ellickson, P. L., McCaffrey, D. F., Ghosh-Dastidar, B., & Longshore, D. L. (2003). New inroads in preventing adolescent drug use: Results from a large-scale trial of Project ALERT in middle schools. *American Journal of Public Health, 93*(11), 1830-1836. (data set 2)

Study 6

Ghosh-Dastidar, B., Longshore, D. L., Ellickson, P. L., & McCaffrey, D. F. (2004). Modifying pro-drug risk factors in adolescents: Results from Project ALERT. *Health Education & Behavior, 31*(3), 318-334. (data set 2)

Supplementary Materials

Data collection forms

Educators Guide

Grade 7 Monitoring Form, Session 1

Grade 7 Student Survey

Grade 8 Student Survey Teacher Checklist

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: Initiation of drug use	4.0	4.0	4.0	4.0	4.0	4.0	4.0
2: Aggressive behavior	4.0	4.0	4.0	4.0	4.0	4.0	4.0

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Study Strengths

The measures and items are well described based on extensive literature review. Most items have been commonly and successfully used in previous research. The items were adjusted for the age of respondents, and five survey versions were pretested. The use of saliva cotinine for truth in tobacco reporting was excellent.

The materials reviewed describe extensive measures to ensure intervention fidelity, including a teacher guide and checklist, and monitoring forms to document further support. Steps were taken to minimize attrition and account for missing data and the developers conducted analyses to assess the impact of attrition. Sample sizes were large. Attrition rates approached 10% but did not surpass this level and therefore were not a threat to internal validity.

Schools were blocked by district, and restricted assignment was used in randomization to enhance comparability between intervention and control schools and minimize potential confounding variables. Intervention effects can be attributed to the Project ALERT intervention outcomes reported in the publications reviewed. Data were analyzed both at the student and school levels and by students' risk levels. Adjustments were made for baseline differences and intra-school correlation.

Study Weaknesses

No weaknesses were noted by reviewers.

10. Readiness for Dissemination

The documents below were reviewed for Readiness for Dissemination. Other materials may be available. For more information, contact the developer(s).

Dissemination Materials

BEST Foundation. (2005). Project ALERT: A supplemental resource manual.

Ellickson, P., Miller, L., Robyn, A., Wildflower, L., & Zellman, G. (2004). Project ALERT: A drug prevention program for middle grades. Project ALERT Peer Teen Leader Manual

Project ALERT program posters and sample newsletters

Project ALERT program Web site, <http://www.projectalert.com>

Project ALERT Readiness for Dissemination (overview document submitted to NREPP) Project ALERT Training Workshop Manual

Project ALERT videos:

- Project ALERT: Eight Classroom Lesson Videos & Guided Tour (2006)
- Project ALERT: Substance Abuse Prevention That Works! (2004)
- Project ALERT Training Video: Lessons 1, 4, and 8 (2004)

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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
4.0	4.0	3.5	3.8

Dissemination Strengths

Implementation materials are comprehensive, well articulated, and cogently structured. The videos and classroom poster realistically depict situations and should be engaging for young adolescents. Implementation materials are also available in Spanish. Videos are closed-captioned for the hearing impaired. The Project ALERT Web site is easy to navigate. On-site training is available both before and during implementation, and training can also be completed online. Fidelity measures, pre- and post-intervention measures, and scoring information are provided to support quality assurance.

Dissemination Weaknesses

Additional training, support, and/or technical assistance may be required for administrators to support implementation fidelity.

11. Costs

The information below was provided by the developer and may have changed since the time of review. For detailed information on implementation costs (e.g., staffing, space, equipment, materials shipping and handling), contact the developer.

Item Description	Cost	Required by Program Developer
Curriculum in e-reader format with online videos and files for posters that can be projected	Free	Yes
Online training	Free	No
1-day, on-site workshop	\$1,200 plus travel expenses	No

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Toll-free phone support, online resources, and ALERT Educator newsletter	Free	No
Fidelity instrument and alignment and assessment tools	Free	No

12. Contacts

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