Youth Marijuana Prevention Symposium

What Works?

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Social Development Research Group,
University of Washington,
School of Social Work
Risk factors exist in different environments:

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Substance Abuse</th>
<th>Teen Pregnancy</th>
<th>School Drop-Out</th>
<th>Depression &amp; Anxiety</th>
<th>Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td></td>
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<tr>
<td>Availability of Drugs</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Availability of Firearms</td>
<td></td>
<td>✓</td>
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<tr>
<td>Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>Media Portrayals of Violence</td>
<td></td>
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<tr>
<td>Transitions and Mobility</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>Low Neighborhood Attachment and Community Disorganization</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>Extreme Economic Deprivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Constitutional Factors</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Prevalence of 30 Day Marijuana Use By Number of Risk and Protective Factors

Six State Student Survey of 6th-12th Graders, Public School Students

SDRG -- Hawkins and Catalano, 2004
Why evidence-based programs?

- Stronger & more consistent positive outcomes
- Strong ethical argument – avoid potential harmful effects
- Potential cost savings to taxpayers and society
- Improving the well-being of our children at a population level
Key Elements of Effective Programs

- Content is based on theory and data about mechanisms of change
- Materials are developmentally appropriate
- Sensitive to the culture and community
- Delivered as intended
- Participants receive sufficient dosage
- Interactive teaching techniques are used
- Implementers are well trained
- Continually evaluated
Why Evidence Based?
What DOES NOT Work?

- Didactic programs targeted on arousing fear (e.g. Scared Straight).
- D.A.R.E.
- Peer counseling programs.
- Segregating problem students into separate groups.
- After school activities with limited supervision and absence of more potent programming.
- Summer jobs programs for at-risk youth.
- Boot camps, group homes, detention centers, wilderness camps.
What is an Evidence Based program?

Develop a strong program design
- Create logic model and replication materials
- Establish continuous improvement system

Ensure fidelity of implementation
- Evaluate program quality and process

Produce indicators of positive outcomes
- Conduct pre- and post-intervention evaluation

Obtain evidence of positive program outcomes
- Carry out evaluation with a comparison group
- Conduct regression analysis (quasi-experimental design)
- Perform multiple pre- and post-evaluations
- Meta-analysis

Ensure fidelity of implementation
- Conduct evaluation with random assignment (experimental design)
- Carry out multiple evaluations with strong comparison group (quasi-experimental design)

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How do you assess the evidence?

On the one hand....

On the other hand...

Ask two questions:

1. Does it work?
2. How do you know it works?
The importance of *implementation fidelity*

What does “**low implementation fidelity**” look like?

I didn't have potatoes, so I substituted rice.
I didn't have paprika, so I used another spice.
I didn't have tomato sauce, I used tomato paste--
A whole can, not a half a can--I do not like to waste.
A friend gave me the recipe, she said you couldn't beat it!
There must be something wrong with her
--I couldn't even eat it
Why is fidelity important?

Fidelity = faithfully and fully replicating the program model you have selected

Without high fidelity, your desired outcomes may not be achieved
Effects of program fidelity on past month smoking reported by middle school students

Felony recidivism rates over time, by therapist competency

- Control
- FFT Not Competent
- FFT Competent

Graph showing recidivism rates from 0% to 35% at 6 months, 12 months, and 18 months.
The Programs
Caring School Community

K–6 program that builds classroom and school-wide community.

- focused on strengthening students’ connectedness to school
Caring School Community

In a Caring School Community, students learn to take responsibility for their own learning and behavior. They also learn the values of fairness, helpfulness, caring, and respect. The program’s four components support that learning.

- Class Meeting
- Cross Age Buddies
- Homeside Activities
- Schoolwide Activities

Guided by Four Principles:
1. Emotional and Physical Safety
2. Supportive relationships,
3. Autonomy
4. Sense of Competence
Caring School Community

Class Meetings

• Teachers learn:
  How to build unity and give students a more meaningful voice in the classroom
  Ways to build students’ social skills and commitment to responsibility, helpfulness, and respect

• Students learn:
  How to set class norms and goals, create plans, make decisions, and solve problems related to classroom life
  How to better understand and empathize with other students
## CCS marijuana outcomes

### Impact in elementary school

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Relative to other students</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Greater sense of the school as a caring community</td>
<td>33% higher</td>
</tr>
<tr>
<td>• Stronger academic motivation</td>
<td>24% higher</td>
</tr>
<tr>
<td>• Less use of alcohol and marijuana</td>
<td>19% lower</td>
</tr>
<tr>
<td>• Better conflict-resolution skills</td>
<td>17% higher</td>
</tr>
<tr>
<td>• Stronger commitment to democratic values</td>
<td>12% higher</td>
</tr>
<tr>
<td>• More concern for others</td>
<td>10% higher</td>
</tr>
</tbody>
</table>
InShape

- Universal Prevention
- Age: Early Adulthood (19-22)
- Race/Ethnicity: All Race/Ethnicity
- Gender: Male and Female
InShape

- Based on Behavior-Image Model (BIM).
- Emphasizes the positive image benefits of
  - setting goals to increase physical activity and exercise, healthy eating,
  - sleep, and stress management,
  - avoiding alcohol, cigarette and illicit drug use.
- Program components
  - a self-administered behavior image survey,
  - a brief talk about fitness and health with a designated Fitness Specialist,
  - a set of fitness recommendations and goal plan to improve fitness behaviors and future image.
InShape Outcomes

Outcomes

- 12 weeks after program initiation, In-Shape relative to a control group resulted in:
  - reduced frequency and heavy use of alcohol,
  - reduced driving after drinking,
  - reduced initiation, quantity, and heavy use of marijuana,
  - increased hours of sleep,
  - improved spiritual and social health,
  - no significant results on cigarette use, exercise, and nutrition behaviors.
Guiding Good Choices

- Strengthens parents’ skills to:
  - build family bonding,
  - establish and reinforce clear and consistent guidelines for children’s behavior,
  - teach children skills to resist peer influence,
  - improve family management practices, and
  - reduce family conflict.
Guiding Good Choices – Preventing Marijuana Use

New User Proportions for Marijuana Use by Experiment Conditions

![Graph showing new user proportions for marijuana use by experiment conditions. The x-axis represents different grades: Pretest, Posttest, 7th grade, 8th grade, 10th grade. The y-axis represents proportion, ranging from 0 to 0.2. The graph compares two groups: PDFY and Control.](Image)
Guiding Good Choices
Evidence of Effects

- 4 years later increased the likelihood that non-users would remain drug free by 28%
  - Reduced alcohol and marijuana use by 40.6%.
- Reduced progression to more serious substance abuse by 54% six years later.

Spoth, Redmond, & Shin, 2001; Spoth, Reyes, Redmond, & Shin, 1999)
Keepin' it REAL is a multicultural, school-based substance use prevention program for students 12-14 years old. 10-lesson curriculum taught by trained classroom teachers in 45-minute sessions over 10 weeks, Booster sessions delivered in the following school year.
Multicultural middle school drug prevention program that has been shown to reduce alcohol, marijuana, and tobacco use.

Teaches youth to think critically and communicate effectively.

Lessons cover risk assessment, decision making, where to go for support, and communication skills such as conflict resolution and drug refusal.

REAL stands for the resistance strategies –

- Refuse
- Explain
- Avoid
- Leave

Ten school lessons and five videos developed by kids for kids.

A series of “boosters” that reinforce the program.
Curriculum participants reported lower alcohol, marijuana, and cigarette use than students who did not receive the program. Effects lasted up to 14 months for alcohol use and marijuana use and up to eight months for cigarette use.

Students who received the multicultural version of the curriculum reported a slower increase in marijuana use over time compared with control students. Curriculum participants who saw fewer than four videos did not report lower rates of substance use.

Students in the intervention group reported greater use of these strategies to resist marijuana use two months after the intervention and to resist cigarette use two and eight months after the intervention. The effect was not found 12 months after the intervention.

The Mexican American and multicultural versions of the curriculum both affected marijuana use. However, the non-Hispanic version did not have an impact on use. (NREPP)
Michael Hect
Curriculum for social competence promotion and drug abuse prevention

Students ages 11 to 14.

• 15 Class Periods (6th or 7th Grade)
• 10 Class Periods (7th or 8th Grade)
• 5 Class Periods (8th or 9th Grade)
Major Components

- Drug Resistance Skills and Norms
- Self-Management Skills
- General Social Skills
Content

- Refusal skills
- Reduce personal motivation to smoke, drink or use drugs
- Decision-making
- Insight into media influences
- Self-worth & assertiveness
- Communication skills
- Personal relationships
- Anxiety management
Life Skills Training (LST) Outcomes

Marijuana Use

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>LST</th>
<th>LST+booster</th>
</tr>
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<tbody>
<tr>
<td>Post-test</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1 year follow-up</td>
<td>9</td>
<td>6</td>
<td>2</td>
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</table>

Poly Drug Use

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>LST</th>
<th>LST+booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>10</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>1 yr follow-up</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

60% reduction in alcohol, cigarette and marijuana use 3 years later for students whose teachers taught at least 60% of the curriculum.

Botvin et al., 1990; Botvin, Baker et al., 1990
• Reduces tobacco, alcohol, and marijuana use 50-75%.

• Effects maintained through grade 12.
  • Cuts polydrug use up to 66%.
  • Reduces pack-a-day smoking by 25%.
  • Decreases use of inhalants, narcotics, and hallucinogens 25% to 55%.
Darren Mattozzi
Skills for Adolescence—Skills Taught

- Learning to accept responsibility
- Communicating effectively
- Setting goals
- Making healthy decisions
- Resisting pressure to use alcohol or drugs

14% increase in GPA
Lions Quest

- Grades 6-8
- Comprehensive lessons
- Implemented by classroom educators
- Integrated into existing subject areas or taught as a stand-alone course
- Executed as a nine-week mini course or over the entire school year
### Table 2
Adjusted substance use prevalence rates of eighth grade students at the spring of 2000 follow-up

<table>
<thead>
<tr>
<th>Variable</th>
<th>SFA (%)</th>
<th>Control (%)</th>
<th>Difference</th>
<th>95% confidence interval</th>
<th>P</th>
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<tbody>
<tr>
<td><strong>Alcohol</strong></td>
<td></td>
<td></td>
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<tr>
<td>Lifetime</td>
<td>66.97</td>
<td>66.33</td>
<td>0.64</td>
<td>-2.25, 3.53</td>
<td>0.66</td>
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<tr>
<td>30-day</td>
<td>22.85</td>
<td>23.18</td>
<td>-0.33</td>
<td>-3.01, 2.35</td>
<td>0.8</td>
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<tr>
<td>Binge drinking (3+) 30-day</td>
<td>12.67</td>
<td>13.11</td>
<td>-0.44</td>
<td>-2.78, 1.91</td>
<td>0.71</td>
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<tr>
<td><strong>Cigarettes</strong></td>
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<tr>
<td>Lifetime</td>
<td>28</td>
<td>27.5</td>
<td>0.5</td>
<td>-1.99, 2.99</td>
<td>0.69</td>
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<tr>
<td>30-day</td>
<td>12.47</td>
<td>11.48</td>
<td>0.98</td>
<td>-0.66, 2.63</td>
<td>0.23</td>
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<tr>
<td><strong>Marijuana</strong></td>
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<td></td>
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</tr>
<tr>
<td>Lifetime</td>
<td>27.24</td>
<td>30.5</td>
<td>-3.26</td>
<td>-6.55, -0.0</td>
<td>0.05</td>
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<tr>
<td>30-day</td>
<td>11.32</td>
<td>13.79</td>
<td>-2.47</td>
<td>-4.70, -0.23</td>
<td>0.03</td>
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<td><strong>Other illicit substances</strong></td>
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<tr>
<td>Lifetime</td>
<td>18.95</td>
<td>18.44</td>
<td>0.51</td>
<td>-1.87, 2.90</td>
<td>0.66</td>
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<tr>
<td>30-day</td>
<td>6.89</td>
<td>6.98</td>
<td>0.09</td>
<td>-1.66, 1.48</td>
<td>0.91</td>
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</table>

Values were adjusted for baseline age, gender, race/ethnicity, two-parent household, site, sensation seeking, baseline survey language, and pretest drug use. The student sample size ranged from 5316 to 5610 depending on outcome variable analyzed. Differences between conditions are based on the $F(1,32)$ statistic.
Multidimensional Treatment Foster Care

**Goal:** to decrease problem behavior and increase prosocial behavior in children and adolescents who are in need of out-of-home placement.

Accomplished by providing:
- close supervision
- fair and consistent limits
- predictable consequences for rule breaking
- a supportive relationship with at least one mentoring adult
- reduced exposure to peers with similar problems

Multifaceted in multiple settings.
- behavioral parent training and support for MTFC foster parents
- family therapy for biological parents (or other aftercare resources)
- skills training for youth
- supportive therapy for youth
- school-based behavioral interventions and academic support
- psychiatric consultation and medication management, when needed

- **MTFC-A** for adolescents (12-17 years)
- **MTFC-C** for middle childhood (7-11 years)
- **MTFC-P** for preschool-aged children (3-6 years)
Families recruited, trained, and supervised to provide MTFC-placed adolescents with treatment and intensive supervision

Behavior modification program based on a three-level point system

- Youth are provided with structured daily feedback.
- As youth accumulate points, they are given more freedom from adult supervision.
- Individual and family therapy is provided.
- Case managers closely supervise and support the youths and their foster families through daily phone calls and weekly foster parent group meetings.
MDTFC--Outcomes

- When implemented with delinquent boys, significant program effects, relative to a comparison group, included less other drug use at 12 months and tobacco, marijuana, and other drug use at 12 and 18 months post-program.
Positive Family Support

- Three-tiered, multi-staged program administered through the middle school

- To be embedded within schools that have an existing positive behavior support infrastructure.
Positive Family Support

- Family Resource Center (FRC), operated by a Parent Consultant.
- A 6-week universal prevention program called SHAPe (Success, Health, and Peace) implemented homeroom classes.
- Family Check-Up
- Family Intervention Menu
Project Northland

- Multi-level intervention to include demand (individual level) and supply (environmental level) reduction strategies.

- Main intervention components include:
  - classroom curricula,
  - peer leadership,
  - youth-driven extra-curricular activities,
  - parent involvement programs,
  - community activism.
Class Action

Real-world social and legal consequences involving teens and alcohol.

- Drinking and Driving on Trial
- Fetal Alcohol Syndrome on Trial
- Drinking and Violence on Trial
- Date Rape on Trial
- Drinking and Vandalism on Trial
- School Alcohol Policies on Trial
- Drinking and Hazing on Trial
- Binge-Drinking on Trial
Project Northland
Outcomes

Students in the intervention group who were never-drinkers at the beginning of sixth grade not only drank significantly less than students in the control group, they also smoked fewer cigarettes and used less marijuana at the end of the eighth grade.
Project Toward No Drug Abuse

- High school classroom-based drug abuse prevention curriculum.
Project Toward No Drug Abuse

Project TND focuses on three factors:

- **Motivation**--attitudes, beliefs, expectations and desires about drug use
- **Social and Coping Skills**
- **Health Promoting Decision Making.**
Project Toward No Drug Abuse

12 in-class interactive sessions
40 to 50 minutes each,
Implemented over a four-week period.

■ Topics include:
  ■ active listening,
  ■ effective communication skills,
  ■ stress management,
  ■ coping skills,
  ■ tobacco cessation techniques,
  ■ self-control to counteract risk factors for drug abuse relevant to older teens.
Project Towards No Drug Abuse (TND)

Program developed by Steve Sussman, Ph.D.,

This logic model was created by the Evidence-based Prevention and Intervention Support Center (EPISCenter) at Penn State University in collaboration with the developer.

Program Components:

- 12 Lesson Curriculum
  - High School Youth ages 14-19
  - Lessons taught sequentially using interactive, Socratic style. Must implement all activities as described in manual.
  - Lesson topics include:
    - Open minded listening
    - Stereotyping, myths & denial
    - Consequences of substance use/abuse
    - Tobacco cessation
    - Stress & coping strategies
    - Self control
    - Conflict avoidance strategies
    - Positive and negative thinking patterns
    - Healthy lifestyle choices
    - Decision making skills
  - Research based Frequency and Duration:
    - Delivered over 4-6 weeks
    - Minimum 2 lessons per week
    - Maximum 3 lessons per week
    - 40 – 50 minute lessons

Proximal Outcomes (Short Term):

- Motivation
  - Decreased desire to use ADOA and increased desire for pro-social involvement
- Skills
  - Increased knowledge, social skills, and coping abilities
- Decision Making
  - Increased ability to plan healthy lifestyle

Targets:

- Decrease Risk Factors
- Increase Protective Factors

Distal Outcomes (Long Term):

- Reduced Substance Use
  - Reduced use of cigarettes, alcohol, marijuana, and hard drugs
- Reduced Antisocial Behavior
  - Reduced weapon carrying
At 1-year follow-up across three studies, students in Project TND curriculum schools exhibited a 25% reduction in rates of hard drug use relative to students in control schools (p < .05).

At 1-year follow-up of a study using an expanded 12-session TND curriculum, students in Project TND schools exhibited a reduction in marijuana use of 22% (p < .05) relative to students in control schools.

At 2-year follow-up, students in Project TND schools were about one fifth as likely to use hard drugs (p = .02) and, among males who were nonusers at pretest, about one tenth as likely to use marijuana (odds ratio = 0.12, p = .03), relative to similar students in control schools.

At 4- to 5-year follow-up, students in Project TND schools were less likely to report using hard drugs than students in control schools (p = .02).
Project Venture

- Project Venture programming can be adapted to empower youth and their communities from a variety of cultures and backgrounds.
- NIYLP is a partner in the Native Aspirations Project, funded by SAMHSA. The project is designed to work with the Native communities that are at highest risk for suicide.
Project Venture Outcomes

- At 18-month follow up, intervention youth reported less increase in alcohol use (p<.05), \textit{marijuana use (p<.01)}, and other illicit drug use (p<.05) than youth in the control group. There was no program impact on tobacco use.
Red Cliff Wellness School Curriculum

Grades K-12,

- school bonding
- success in school
- increased perception of risk from substances
- identification and internalization of culturally based values and norms.
Red Cliff Wellness School Curriculum

- Teachers trained in interactive, cooperative learning techniques and facilitation
- Activities to enhance the values of:
  - sharing, respect, honesty, and kindness
- Assist students in understanding their emotions.
- Small-group discussions -- talking circles -- are extensively used
Redcliff Wellness Outcomes

- Schools participating in the study were assigned to an intervention group, which received the Red Cliff Wellness School Curriculum, or to a wait-list control group. Although intention to use marijuana increased among students in both groups over the course of the study (from pretest through 1-year follow-up), the increase was significantly smaller among students in intervention schools than among those in control schools (p < .01).

- At the 2-year follow up, intervention youth reported significantly less past 30-day marijuana use (p<.001)
SPORT

- In-person health behavior screen
- One-on-one consultation
- Take-home fitness prescription targeting adolescent health promoting behaviors and alcohol use and risk and protective factors
- A flyer reinforcing key content provided during the consultation mailed to the home.
SPORT

SPORT fitness consultations

- administered using a standardized protocol
- designed to provide tailored, scripted communications
- by trained fitness specialists (nurses and certified health specialists)
- to adolescents one-on-one.

At the conclusion, a take-home fitness prescription is provided recommending the adolescent set goals in the areas of sleep, nutrition, physical activity, and alcohol.
SPORT

- A health-promotion program for high school adolescents to improve their physical fitness, nutrition, sleep habits, and avoid alcohol, tobacco, and drug use.

- Highlights positive image benefits of an active lifestyle by showing youth as active and fit,

- Emphasizes substance abuse as counterproductive to achieving positive image and behavior goals.
Sport Outcomes

- Drug-using students who participated in SPORT showed significant positive effects at 3-month follow-up compared with drug-using control students in alcohol consumption (frequency, quantity, heavy use), current drug use (cigarette smoking, marijuana use), and past drug use (cigarette smoking, marijuana use), $p < .005$ for all findings. Positive effects for past cigarette and marijuana use continued through 12-month follow-up ($p < .003$ for both findings).