Effective substance use prevention in schools:

Suspicious stories of success?

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Norwegian Institute for Alcohol and Drug Research
Background paper

Pape, H.: **School-based programs that seem to work:**

Useful research on substance use prevention

*or* suspicious stories of success?

*Nordic Studies on Alcohol and Drugs 2009, 26 (6), 521-535.*

*How my curiosity with respect to this question was aroused*
An expert group (appointed by the health authorities in Norway) recently reviewed the drug prevention programs used in Norwegian schools.

Its conclusion;

Only one program – *Youth & Alcohol* – could be recommended

because its’ effects on adolescent drinking had been demonstrated.
The Youth & Alcohol Program

Targeted at 13-14 year olds

**Aims:**
- To delay the onset of alcohol use
- To reduce underage drinking

**Focus:**
- Drug refusal skills + decision making
- Alcohol-related attitudes + norms
- Correct misperceptions ("everybody" drinks)

Widely used in Norway (compulsory for all junior high schools in Oslo)
The evaluation of *Youth & Alcohol* was undertaken by the program developers

and

the short-term effects were published in a high quality scientific journal

The evaluation of *Youth & Alcohol*

2 intervention groups:  
Detailed instructions (DI)  
Flexible implementation (FI)

Control group *(no intervention)*

**Effects after 2 months:** Less drinking in the DI group  
*More* drinking in FI group

However, in real life,  
school programs are rarely implemented “by the book”

Hence, if the results were taken at face value,  
one should *warn* against this program rather than recommend it

**Effects after 11 months:** None
The rest of the sad story about *Youth & Alcohol*

- Due to poor measures on alcohol use, all the reported findings were in fact questionable.

- **Publication bias:**

- The poor result after 11 months is only reported in a Norwegian publication (as a "hidden" result).

- *Only* the **positive** short-term effect is reported in the program developers’ later publications about *Youth & Alcohol*.
The story about *Youth & Alcohol* aroused my curiosity:

Have many other evaluations of school-based drug prevention programs also arrived at favourable conclusions on a suspicious basis?

Is the research literature reliable, OR is it biased in favour of “good news” about drug prevention in schools?
The research literature is huge, but discouraging:

School-based alcohol use prevention rarely work as intended

The true preponderance of negative results is probably even larger than that reported….

… because this literature is likely to be biased in favour of studies with positive findings
Publication bias: A case of a “hidden” re-analysis

Tobler et al’s meta-analyses of school-based drug prevention programs Published in easily available scientific journals (1996, 1997, 2000)

Conclusions: The most successful programs are:

- Life skills training programs
- Programs based on active participation from the pupils

Results of a more advanced re-analysis of the same data (2000):
All school programmes are about equally ineffective

Published in 2007 (!) – in an “unknown” web site
Why favouring positive findings
(rather than searching for “the truth”)

????
Almost all studies in favour of drug prevention programs have been conducted by program developers.

Some of these researchers have their program “for sale”.

**Relevant research findings:**

“Studies performed by program developers yield much stronger effects than studies performed by others” (Borman et al 2003)

“Independent outside evaluations often fail to confirm evaluations by program developers” (Skager 2007)
An Example: Botvin’s Life skills training (LST)

- One of the most widely used substance use prevention programs in American schools

- Assigned status as an exemplary, evidence-based program by several federal and academic agencies in the USA (e.g. the National Institute on Drug Abuse, the Center for Substance Abuse Prevention…)

- “The best” foreign school program, according to the Norwegian expert group
When Effectiveness and Quality Count...
Botvin LifeSkills Training is the only choice

Dramatically Cuts:

Drug Use
Proven to cut Drug Use by up to 75%

Alcohol Use
Proven to cut Alcohol Use by up to 60%

Violence
Proven to cut verbal/physical aggression, fighting and delinquency by up to 50%.

Tobacco Use
Proven to cut tobacco use by up to 87%
## Botvin LifeSkills Training Elementary School Program

### Elementary School Level 1 (Grades 3/4)

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## Full Middle School Curriculum Set (continued)

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## Botvin LifeSkills Training High School Program (Grades 9/10)

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## Botvin LifeSkills Training Transitions Program (Grades 11/12)

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## Botvin LifeSkills Training Parent Program

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More about **Botvin’s Life skills training** (**LST**)  

- **Botvin**: Program developer/owner, businessman & researcher  
- Involved in almost all studies on the effects of his program  
- Has co-operated with the tobacco industry on promoting **LST** (but the industry knew that they had nothing to fear)  
- Critical reviews of Botvin’s **LST**-research have uncovered systematic biases - in favour of the program  
- Botvin has deliberately suppressed negative findings about **LST**
Biases and weaknesses in the research behind many “evidence”-based school programs

- Selective reporting of positive findings
- Use of questionable analytical strategies and statistical tests (that increase the probability of “documenting” positive effects)
- The importance of small program effects is over-estimated
- Only short-term effects have been assessed (or reported), and long-term effects are much harder to achieve
Non-scientific evaluation research

Some researchers obviously want to confirm

– *rather than to test* –

the hypothesis that substance use prevention works

(”Upside-down” research)

”*The most serious challenge to the field [...] has been in proving that prevention works*” (Botvin & Kantor 2000)

”*It is essential that research provide evidence that, when it comes to prevention of addiction, that “something works”*” (Dupont 1998)
Some additional weaknesses

School programs with "documented" effects on substance use have typically been implemented under ideal conditions.

Whether the programs work under "real life" conditions is questionable.

Replication studies of programs implemented in an ordinary school context are few and far between.
Responses to such criticism

Gorman, 2003:

“Who are you to criticize these programs when experts have declared them effective?”

“You shouldn’t criticize these programs unless you have some alternative to recommend”
Summing up & concluding

Despite biases in favour "good news", the literature on substance use prevention programs is generally discouraging.

Studies that conclude that "school-based drug prevention programs works" must be taken with a pinch of salt.
Some final suggestions
Some final suggestions

Don’t throw the baby out with the bath water!!

Redefine the aims of the school-based interventions!!

Combine school programs and other educational approaches with more effective preventive measures!


Effective prevention against underage drinking – The need to higher taxes on alcoholic beverages in Germany. Alcohol & Alcoholism 45, 378-394.