



Effective Public Health Practice Project Summary Statement

December 2005

This is a summary statement written to condense the work of the authors of a systematic review. The reference for the full review is below. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

Reference for Review in APA: Skara, S. and Sussman, S. (2003). **A review of 25 long-term adolescent tobacco and other drug use prevention program evaluations.** *Preventive Medicine*, 37: 451-474.

Issue: In Canada, according to the Health Behaviour in School Aged Children Study (HBSC) (Health Canada, 2005), by grade 10, 34% of males and 23% of females are consuming alcohol at least once a week. Marijuana use is common, with 19% of males and 9% of females reporting using it 20 or more times in the last 12 months. The rate of daily smokers among males is 15%, similar to 1998. Among females the rate has dropped 10% since 1998 and in 2003 was 11%. Engaging in these health risk behaviours is the primary cause of morbidity and mortality of adolescents. A vast peer-reviewed literature addresses the prevention of tobacco, alcohol, and marijuana use among adolescents through school based programs. The most recent and promising prevention approaches are based on the psychosocial influences on behaviour. The two major psychosocial approaches that have been adopted by schools are the social influences approach (Evans, 1976) and the more comprehensive personal and social competence enhancement (Life Skills Training) strategy (Botvin *et al.*, 1980).

Review Content Summary: Although the initial effectiveness of psychosocial strategies programming for preventing smoking and other drug abuse among adolescents has been well established through literature reviews and meta-analyses, much less evidence exists for the long-term success of these interventions. The primary goal of this review, therefore, was to summarize the effectiveness of published program evaluation studies that have followed adolescents across the transitional period between junior high and high school for a period of at least 2 years. A total of 25 relevant studies were included in the review. Seventeen of these studies were conducted in the United States, two in Canada, and one in each in the UK, Italy, the Netherlands, Norway, Australia and Finland. All studies but one were school-based. The programs addressed the social influences to smoke and development of skills to resist pressure to smoke. Students were followed for at least 24 months, but 15 studies reported that more than 25% of participants dropped out before the final follow-up assessment. Evaluation measures included self-report questionnaire items on lifetime or recent use of cigarettes, alcohol, and other drugs. Fifteen of 25 studies detected a statistically significant benefit for prevention strategies on at least one measure of tobacco use. Six of nine studies also reported that the programs evaluated reduced alcohol and marijuana use.

Comments on this review’s methodology: Eleven of the studies were randomized controlled trials, while the remainder were cohort studies with nonequivalent control groups. Of the 14 cohort studies, all used a pretest-posttest design, except 1 study that chose the posttest only design. In almost half of the studies, pairs of schools or students were matched on important characteristics (e.g., pretest drug use scores or demographic variables) and then were assigned to one of the treatment conditions. Selection bias may exist as a limitation of many of the studies because they did not employ random sampling techniques; instead they recruited subjects based on availability. Across all studies, there was great variability in the selection and use of outcome measures. Many studies failed to report how outcome measures were dichotomized or scored (when scales were created). Further, the psychometric adequacy of the substance use-related measures was not reported for the most part. No attempt was made to pool data from individual studies using meta-analysis.

Evidence points ARE NOT weighted or ranked according to strength.

What’s the evidence?	Implications for practice and policy:
> The majority of studies reported that the programs evaluated were effective in preventing or reducing adolescent cigarette, alcohol, and marijuana use across follow-up periods ranging from 2 to 15 years.	> School-based psychosocial strategies programs could reduce adolescent cigarette, alcohol, and marijuana use. Efforts should be made to implement these prevention programs for adolescents in the school setting.
> The majority of studies reported that they had suffered from large attrition rates at final post-test, ranging from 6% to 82%, which may affect the internal and external validity of these studies.	> Special attention should be given to achieving a higher response rate and minimizing selective attrition. Further, the identification and systematic use of appropriate statistical procedures for dealing with differential attrition are encouraged.
> Regardless of unit of assignment, the majority (almost two-thirds) of studies conducted analysis at the individual level.	> Researchers need to conduct analysis at the same level as the unit of allocation and include cluster analysis.
> The majority of studies had methodological flaws.	> Research into the area should include high quality RCTs. As well, intervention studies should have sufficient power to detect any between group differences. Future RCTs should pay special attention to defining the appropriate target population, considering feasible strategies for achieving randomization, and defining proper unit of assignment to experimental conditions.
<p>General Implications:</p> <p>School-based psychosocial strategies programs can reduce long-term cigarette, alcohol, and marijuana use among adolescents.</p>	

Cost Benefit or Cost-Effectiveness Information: Not included in review.

References Used to Outline Issue:

Health Canada. Young people in Canada: Their health and well-being. Health behaviour in school aged children study. http://www.phac-aspc.gc.ca/dca-dea/publications/hbsc-2004/hbsc_summary_e.html. Accessed November 27, 2005.

Evans R.I. Smoking in children: developing a social psychological strategy of deterrence. *Prev Med* 1976; 5(1): 122-7.

Botvin G.J., Eng A., Williams C.L. Preventing the onset of cigarette smoking through life skills training. *Prev Med* 1980; 9 (1): 135-43.

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