

Getting Results: Developing  
Safe and Healthy Kids  
Update 3

Alcohol, Tobacco, Other Drug,  
and Violence Prevention: Research Update

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## **Publishing Information**

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# Acknowledgments

The contributions of the many people who were involved in the creation of this third update of *Getting Results* are gratefully acknowledged and appreciated.

**A team of research experts** selected the key research studies on alcohol, tobacco, and other drug use and on violence prevention that have been published since the publication of *Getting Results*, Part I. They summarized those research studies, met to discuss the implications of the research findings, and wrote personal commentaries on the importance of the research for the field. Members of this team were:

**Patrick Aaby**

*Developmental Research and Programs  
Seattle, Washington*

**William B. Hansen**

*Tanglewood Research, Inc.  
Greensboro, North Carolina*

**Cheryl Perry**

*University of Minnesota  
Minneapolis, Minnesota*

**A concept team** of prevention practitioners reviewed the draft publication for relevance and ease of use in the field. Included on this team were:

**Beverly Bradley**

*University of California, San Diego*

**Carol Burgoa**

*Health Education Consultant, San Rafael*

**Sally Champlin**

*California State University, Long Beach*

**Barbara Dietsch**

*WestEd, Los Alamitos*

**Mark Duerr**

*Duerr Evaluation Resources*

**Jill English**

*California State University, Fullerton*

**Susan Giarratano-Russell**

*Health Education Consultant, Glendale*

**Meredith Rolfe**

*Sacramento City Unified School District,  
Sacramento*

**Ben Strasser**

*Los Angeles County Office of Education,  
Downey*

**Jeanne Title**

*Napa County Office of Education, Napa*

**California Department of Education staff** who participated in research meetings and responded to drafts of the publication were:

**Kathy Lewis**, *Deputy Superintendent*,  
Child, Youth, and Family Services Branch

**Wade Brynelson**, *Assistant Superintendent*,  
Learning Support and Partnerships  
Division

Staff members from the Healthy Kids  
Program Office who participated were:

**Gerald Kilbert**, *Administrator*

**Greg Wolfe**, *Consultant, Project Monitor*

**Ruth Bowman**, *Consultant*

**Rae Kine**, *Assistant Consultant*

**D. J. Peterson**, *Consultant*

**Myra Young**, *Consultant*

Partners of **Health & Education  
Communication Consultants** who  
identified the researchers and concept team  
members and worked with them to create  
this publication were:

Lisa K. Hunter  
Donna Lloyd-Kolkin  
*Berkeley*

**Studio eM**, *Los Altos*,  
provided the graphic design.

# Chapter 1

## Introduction



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**CHAPTER 1**

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# Introduction

This third update to the *Getting Results* series, titled *Alcohol, Tobacco, Other Drug, and Violence Prevention: Research Update*, presents recently published key research about alcohol, tobacco, and other drug (ATOD) use and violence prevention. Its purpose is

## *What Update 3 Is—and Is Not*

This update is not intended to be an exhaustive examination of the research. It presents research interpretations and critiques by well-known and nationally respected ATOD and violence prevention researchers. Patrick Aaby, William Hansen, and Cheryl Perry bring not only their professional experience to the task but also their particular views of research-based prevention strategies.

These researchers were invited to select their choices for the key recent research articles. They were asked to describe the research methods and outcomes in the articles they selected and to give their perspective on why the research is important for educators

## *Perspective of the Researchers*

Each researcher offered a statement of his or her philosophy or point of view on prevention. Patrick Aaby is most interested in developing school improvement policies to support what the research says about risk and protective factors. He said, “We know that risk factors impede academic achievement and that accountability should be reflective of where risk factors have their source. We need to get to the basic core of

to keep educators abreast of the most recent findings in school-based prevention research and to provide a perspective on that research by some of the leading researchers in the field.

to know about. Each researcher also wrote a commentary that reflects his or her personal perspective on an aspect of research on prevention.

Some readers will disagree with some of these positions and may find themselves engaged in a heated mental debate with the writers. Certainly this was the case with the concept team members who reviewed the draft version. Prevention is an evolving science, and new research evidence can call into question what was previously taken for granted. The important thing is to keep abreast of new findings and to discuss with colleagues how these findings fit with what is being done.

the problem, and ask all the key players—not just schools—to be accountable.”

William Hansen’s perspective on the research is that “We need to pay attention to characteristics of individuals and their environment that are statistically predictive of ATOD use in the same way that public health professionals look at risk factors for disease. We need to look at what the data tell us about the characteristics that are

most strongly related to use and then seek to change those factors that actually account for behavior. I look at it more like an engineering problem than a philosophical issue.”

Cheryl Perry, whose work emphasizes the need for schools and others in the community to work together, says, “I have been guided in the design of prevention programs by behavioral theories and research on the predictive factors for ATOD use. Predictive factors have emerged from a variety of theories and have given substance and substantiation to our notions of the etiology

of ATOD use as these factors are identified, replicated, and shown to be potent. These factors may indicate increased risk or protection; what I think is most important is how potent these factors are in predicting ATOD use (how much of the variance in use they predict) and how amenable they are to intervention (as guidance for the development of the components of our prevention programs). I believe it is very important to target those factors most predictive, potent, and amenable to intervention if our prevention efforts are to be successful.”

### *Overview of the Contents*

The update is organized into four chapters, all of which except for the introduction begin with a table summarizing the research studies that are discussed in that chapter. Chapter 2, “Research About Factors That Influence Health Behavior,” contains five research summaries written by William Hansen and Cheryl Perry that discuss the underpinnings of prevention theory, such as theoretical perspectives of risk and protection factors. The summaries in this chapter are tied together by a commentary by William Hansen about the need to consider both risk and protective factors in prevention programs.

Chapter 3, “Research About Strategies for Effective Prevention Programs,” contains four summaries written by Patrick Aaby and Cheryl Perry on various approaches to prevention, such as peer-led instruction,

promotion of social bonding of youths with others, and comprehensive school-community efforts. The chapter ends with a commentary by Cheryl Perry on the importance of multiple-component programs that include not only students and teachers but also parents and the community in prevention.

The final chapter, “Prevention and Education Reform,” shifts the focus from prevention to school reform. The research article in this chapter is not an evaluation of a program, but rather a discussion of a model for developing a “comprehensive continuum of interventions” to address barriers to development and learning. Patrick Aaby summarizes this article and extends its ideas in a commentary to argue that education reform must be about more than raising test scores.

## About the Researchers

**Patrick Aaby, Ph.D.**, is the Senior Policy Advisor at Developmental Research and Programs (DRP), an organization that is dedicated to developing and distributing research-based tools for families, schools, and communities that contribute to the healthy development of young people and to the reduction of health and behavior problems, including substance abuse, violence, crime and delinquency, teen pregnancy, and school drop-out. Before joining DRP, Aaby worked in public education for 26 years as an administrator and teacher in Washington State. He has extensive experience in working with community coalitions, assessing needs, and integrating and aligning resources to effectively reduce risk factors and enhance protective factors associated with substance abuse and youth violence.<sup>1</sup>

**William B. Hansen, Ph.D.**, is President of Tanglewood Research, Inc., an organization dedicated to developing, testing, training, and marketing highly effective educational materials for preventing drug use, violence, delinquency, and premature sexual activity among teens. Hansen is a widely recognized expert in alcohol and drug-use prevention and has developed numerous curricula for

school and community-based prevention, including Project SMART, Project STAR, and All Stars. He has served on the faculty of the University of California, Los Angeles; the University of Southern California; and the Bowman Gray School of Medicine at Wake Forest University in Winston-Salem, North Carolina. The goal of his research has been to identify and evaluate evidence-based approaches to prevention that can achieve reductions in the onset of use and that can be applied in everyday settings.<sup>2</sup>

**Cheryl L. Perry, Ph.D.**, is a Professor in the Division of Epidemiology, School of Public Health, at the University of Minnesota. Her primary area of research is adolescent health behaviors related to eating patterns, tobacco and alcohol use, and violence among children and adolescents. Her research projects have included the Child and Adolescent Trial for Cardiovascular Health (CATCH), Project Northland, and DARE Plus. In 1998 she served as an expert witness for the state of Minnesota in the 1998 landmark trial against the tobacco industry. Her recently published book (1999) is titled *Creating Health Behavior Change: How to Develop Community-Wide Programs for Youth*.<sup>3</sup>

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<sup>1</sup> For further information, contact Patrick Aaby <paaby@channing-bete.com> at the Channing Bete Company, Prevention Sciences Division, 620 Alverson Boulevard, Everett, WA 98201.

<sup>2</sup> For further information, contact William Hansen <billhansen@tanglewood.net> at Tanglewood Research, Inc., 7017-D Albert Pick Road, Greensboro, NC 27409.

<sup>3</sup> For further information, contact Cheryl Perry <perry@epi.umn.edu> at the University of Minnesota, 1300 S. Second Street, Suite 300, Minneapolis, MN 55454.



## Chapter 2

# Research on Factors That Influence Health Behavior



**CHAPTER 2**

# Research on Factors That Influence Health Behavior

This chapter contains five research summaries written by William Hansen and Cheryl Perry that discuss the underpinnings of prevention theory, such as theoretical perspectives of risk and protection factors.

Commentary by William Hansen about the need to consider both risk and protective factors in prevention programs discusses the findings in these articles.

*Table 1*

## Summary of Research in Chapter 2

Title of Article	Description	Outcomes/Program Effects	Importance	Page
Drug education practice: Results of an observational study. Hansen, W.B., & McNeal, R.B. (1999). <i>Health Education Research</i> , 14(1), 85-97.	Observation of what was taught in drug education classes in 12 schools in one county	Observations revealed that research-based prevention curricula were generally not used, and teachers did not understand the concepts that support effective programs.	This study is one of the only studies to observe the content and teaching styles used for middle-school drug education lessons.	11
Risk and protection: Are both necessary to understand diverse behavioral outcomes in adolescence? Pollard, J.A., Hawkins, J.D., & Arthur, M.W. (1999). <i>Social Work Research</i> , 23, 145-158.	Assessment of relationships between risk and protective factors and variety of student outcomes	Risk and protection were not independent; the strongest predictor of outcomes was exposure to risk. The buffering effect of protection was stronger as the level of risk increased.	Altering risk should be emphasized in prevention with high-risk youth, but not to the exclusion of promoting positive, protective factors.	13
Stages in the development of adolescent smoking. Mayhew, K.P., Flay, B.R., & Mott, J.A. (2000). <i>Drug and Alcohol Dependence</i> , 59, Suppl. 1, 61-81.	Review of research on the predictors of developmental stages and transitions of adolescent smoking	Having friends who smoke, low school performance, positive intentions to smoke, and tolerance of deviance are associated with early stages of smoking. Higher levels of use are associated with being male and white, parental smoking, peer smoking, early onset of smoking, previous smoking, and holding normative beliefs regarding prevalence.	Research provides support for addressing multiple individual, family, and social factors as influences on smoking behavior and addiction to nicotine.	18

Table 1

Summary of Research in Chapter 2 (Continued)

Title of Article	Description	Outcomes/Program Effects	Importance	Page
<p>Exposure to brand-specific cigarette advertising in magazines and its impact on youth smoking.</p> <p>Pucci, L., &amp; Seigel, M. (1999). <i>Preventive Medicine</i>, 20, 313-320.</p>	<p>Interviews with adolescents about magazines read and smoking status and brand use to assess relationship of exposure to brand-specific cigarette ads</p>	<p>Cigarette brands students began to smoke were correlated with exposure to ads for those brands.</p>	<p>Media literacy and other activities that promote activism against tobacco ads may counter the influence of these ads.</p>	<p>22</p>
<p>Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention—Results on smoking.</p> <p>Peterson, A.V., Kealey, K.A., Mann, S.L., Marek, P.M., &amp; Sarason, I.G. (2000). <i>Journal of the National Cancer Institute</i>, 92(24), 1979-1991.</p>	<p>A 15-year treatment-control study of a social influence-based smoking prevention program, grades 3-12</p>	<p>At 12th grade and two years later, smoking prevalence was nearly identical for treatment and control group students.</p>	<p>Further data analysis may provide insight about why some schools had lower rates of smoking than others (e.g., existence of strong policies, school climate, etc.). The study is a reminder that classroom curriculum alone is not enough.</p>	<p>25</p>

## Drug Education Practice: Results of an Observational Study

**Summary by Cheryl L. Perry, Ph.D.**

This study examined the relationship between what research has demonstrated as effective practices in drug education during the past few decades and what was actually taught in classrooms in 12 middle schools in Forsyth County, North Carolina. The study addressed three questions: (1) What evidence exists that approaches supporting effective prevention practices are understood by teachers who teach drug education curricula? (2) What is the content of the programs taught by the teachers? and (3) What styles of drug education are taught?

### Importance of the Study

This is an important study for drug education research and practice. The direct observations of middle-school classrooms and teachers revealed that research-based prevention curricula and components of effective programs are generally not used in middle schools. In addition, middle-school teachers did not generally understand the concepts that support effective programs.

### Sample and Methods

Drug education teachers in 12 middle schools in one county were recruited to participate in the study. While teachers were presenting drug education, trained observers visited the classrooms and completed three forms. The first form was used to assess which of 12 drug education approaches were being used on a minute-by-minute basis. The approaches were those that research studies

had shown to be a part of effective prevention programs: (1) setting norms; (2) building commitment; (3) clarifying values; (4) providing knowledge of consequences and facts about drugs; (5) training in resistance skills; (6) building self-esteem; (7) training in goal-setting skills; (8) training in decision skills; (9) providing alternatives; (10) managing stress; (11) training in assistance skills; and (12) training in social skills. This form also indicated which drugs had been discussed during 5-minute intervals throughout the class period. The second form provided a qualitative description of the teaching and class activities. The observers used the third form to make judgments about which approaches had been used during the class period. Teachers were also asked to complete the third form to make their assessment of which approaches to preventing drug use they had used during the class. Factor analysis using the 12 approaches and 9 types of drugs revealed which approaches teachers generally used with each type of drug.

### Findings

A total of 1,839 middle-school classes were observed from 1992 to 1994. Instruction that addressed knowledge about drugs and the consequences of drug use was the focus of drug education nearly half (45.9 percent) of the time. Resistance skills training was the next most frequently observed program element (8.2 percent of the time). The most potent program elements were covered less

than 8 percent of the class time. Alcohol was the most frequently discussed substance, followed by tobacco and marijuana. Factor analyses of the drug topics and program approaches revealed five distinct types of teaching observed: (1) a stress on knowledge about drugs and the consequences of their use, particularly cocaine, heroin, and marijuana; (2) teaching that focused on inhalants, steroids, amphetamines and hallucinogens; (3) teaching about tobacco and alcohol and norm setting; (4) teaching that emphasized stress management, goal setting, and values clarification; and (5) teaching that attempted to build commitment to not use drugs. Teachers had a very low agreement with the observers about the implementation of the 12 approaches (while there was high agreement among the observers).

### Strengths and Limitations

Strengths of the study include its use of direct observation methods of teachers and classrooms and the large number of observations. The study also used reliable methodologies to assess what was taking place in the classrooms and to determine the overall types of instruction that emerged. There was not enough information on the study sample or drug education mandates of the county or state, a situation that limits the extent to which generalizability of the findings would be valid. Other areas of the country, for example, might have more extensive teacher preservice or in-service training that stresses the prevention approaches found to be efficacious, and the results might have been different from those found in this study.

### Meaning for Practitioners

In this study there was a clear disconnect between what researchers have found to be effective in the prevention of drug use and what was being taught in middle-school classrooms. This study revealed that research-based prevention curricula and components of effective programs were not often used by the teachers who were observed. Greater emphasis is needed on the dissemination of information on successful programs.

There should also be a greater emphasis on preservice and in-service training of teachers and staff on effective components of drug education. Training of teachers should emphasize effective approaches to instruction and the relationship of these approaches to student learning and behavior change. Teacher education should also include practice sessions in which teachers can demonstrate the skills that are being taught. This technique is especially important when those approaches to instruction are different from teachers' normal teaching methods. During training, recognition of multiple approaches to drug education by teachers should be considered since the training might involve "undoing" ineffective approaches, such as the overemphasis on drug knowledge and consequences of use.

### Reference

Hansen, W.B., & McNeal, R.B. (1999). Drug education practice: Results of an observational study. *Health Education Research, 14*(1), 85-97.

## Risk and Protection: Are Both Necessary to Understand Diverse Behavioral Outcomes in Adolescence?

Summary by William B. Hansen, Ph.D.

This investigation was designed to assess relationships between an extensive list of risk and protective factors and a variety of adolescent outcomes, such as alcohol and marijuana use, grade point average, possession of a gun at school, police arrests, and attacks on others with intent to hurt.

### Importance of the Study

Prevention researchers and program developers continue to search for clues to understanding how alcohol, tobacco, and other drug use develops. The debate is ongoing about whether prevention should focus on reducing risk or on promoting protection. That is, some approaches to prevention appear to focus either on reducing risk or on enhancing protection. In some cases, risk is emphasized to the exclusion of considering protection. The opposite is also true; that is, there are approaches that consider building only protective factors or assets and exclude considering the risks.

Few research reports speak directly to what the balance between the two approaches should be. The present study contributes to the prevention field by assessing the potential for both risk and protective factors to be necessary components in preventing problem behavior in adolescents.

### Sample and Methods

This study, which reports the results of a large cross-sectional research project, uses data that were collected as a part of a needs assessment project funded by the Center for Substance Abuse Prevention (CSAP). The survey used in this project assessed a comprehensive list of risk and protective factors and behavioral outcomes. Youths in grades 6 through 12 from five states participated in surveys in 1994 and 1995. In addition to risk and protective factors, other areas that were assessed are school achievement, alcohol and marijuana use, and violent and nonviolent delinquent behavior.

The following list shows the domains and factors addressed in the study:

Domain	Risk Factor	Protective Factor
Community	Low attachment to neighborhood Community disorganization High mobility Laws and norms that favor drug use High availability of drugs and weapons	Rewards for community involvement
School	Low commitment to school	Opportunities for school involvement Rewards for school involvement
Family	Poor supervision Poor discipline High family conflict Family history of antisocial behavior Parental antisocial attitudes Parental attitudes that support drug use	High family attachment Opportunities for family involvement Rewards for family involvement
Individual or Peer	High degree of rebelliousness High degree of sensation seeking Early initiation of antisocial behavior Attitudes that favor antisocial behavior Attitudes that favor drug use Antisocial behavior among peers Drug use among peers Peer group rewards for antisocial acts	Belief in a moral order High degree of problem-solving skills

Two summary scores were calculated for each adolescent. The first summary score was calculated by identifying how many of the 20 risk factors were present; the second summary score was calculated by identifying how many of the 8 protective factors were present. Adolescents were then placed into five categories based on 20-point percentile blocks. This procedure created category scores for both risk and protection that ranged from 0 (a percentile score of 0 to 20)

to 4 (a percentile score of 80 to 100). Thus each student had two factor rankings, one for risk and one for protection. A risk score of 4 indicated high risk. A protection score of 4 indicated high protection.

### Findings

The first finding reported was that being exposed to risk and having access to protection were not independent of each other. The correlation coefficient between

risk and protection was  $-0.66$ .<sup>4</sup> As levels of risk increased, levels of protection decreased. Thus, among adolescents who had low levels of risk, protection tended to be high. On the other hand, among adolescents who had high levels of risk, protective factors were generally scarce or absent.

When risk and protective factors were considered independently, the strongest predictor of all outcomes (alcohol use, marijuana use, high grade point average, bringing a gun to school, arrest, attack with intention to hurt) was exposure to risk. Availability of protection was predictive of outcomes, but less so.

As the risk category increased, teens were more likely to use alcohol and marijuana. For alcohol, each level of increased risk resulted in a higher prevalence of alcohol use. For marijuana, prevalence remained below 5 percent for risk categories 0, 1, and 2 and noticeably increased only among those at risk category 3 (about 10 percent) and risk category 4 (about 30 percent). A similar pattern was observed when the outcomes being considered were those of being arrested and being attacked. Adolescents in risk category 4 were almost four times more likely than those in risk category 3 to be arrested and attacked. (Adolescents in risk category 0, 1, and 2 were almost never arrested, and fewer than 5 percent reported being attacked.) Bringing a gun to school was almost never observed except among students at risk category 4, about 10 percent of whom had done so.

Even though the differences in outcomes accounted for by risk were greater than the differences in outcomes accounted for by protection, increased protection was associated with less alcohol and marijuana use. Students reporting the lowest level of protection were more likely to drink alcohol and use marijuana. These students also had the highest prevalence of other behavioral problems and the lowest grade point averages.

The buffering effect of protection was stronger as the level of risk increased. For example, this research considered only students at the highest risk category (risk category 4). If these students were categorized as being highly protected (protection category 4), they were somewhat less likely to drink alcohol (45 percent) than were students who were categorized as being unprotected (69 percent—protection level 0).

Results were also reported for students in the highest risk category for marijuana use. Marijuana use was more prevalent among students categorized as having the lowest protection (38 percent) than it was among students categorized as having the highest level of protection (27 percent). In contrast, even the least-protected students in the next lower category of risk (category 3) were less likely to use marijuana (13 percent) than were the most-protected students in the highest risk group.

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<sup>4</sup> Correlation coefficients are statistical measures of association. In education and the social sciences, a correlation of  $-0.66$  would be interpreted as a very strong relationship. To understand how much of one variable is accounted for by the second, statisticians square the correlation. Because risk appears to be a more important predictor, the reader should interpret this relationship in the following way: Nearly half (43 percent) of an individual's level of protection is accounted for by knowing his or her level of risk.

### Strengths and Limitations

The risk and protective model has been widely supported philosophically, but this study is among the few that have actually presented data that allow this approach to be evaluated. The large sample size and representation of several states give this study significant strength.

This study employed a cross-sectional design. That is, participants were surveyed only once. This design allowed researchers to determine whether those who had already used substances also had increased risk but prevented the researchers from making inferences about how risk and protection might actually promote or suppress behavior. It is possible, for instance, that the presence of risk factors might have emerged after the behaviors developed rather than before they developed, as is typically thought.

The list of risk and protective factors examined was specific to the Communities That Care model. The widespread use of this model strengthens the applicability of these findings to those of other sites that have adopted this model. The list of protective factors, on the other hand, does not match other lists of factors (e.g., the assets model of the Search Institute). It is possible that other factors might have strengthened the relative influence that protection has. On the other hand, other such lists have not yet been subjected to rigorous research, and an implication that the protective side of this investigation would be stronger had such a list been used would be entirely conjectural at this time.

### Meaning for Practitioners

The findings reported here suggest that practitioners should also focus their efforts on reducing risk and in dealing with students who are at the highest levels of risk. Altering risk is likely to be the single most promising strategy for prevention with high-risk youths. More studies—including studies that try changing both risk and protection—may be needed before this conclusion can be definitively reached. Such research is yet to be done. However, given the available data from this and other studies, it is clear that reducing risk cannot be ignored and should be a major focus of prevention efforts. However, because reducing risk may best be accomplished through strategies that promote positive alternatives—including strategies that address both risk and protective factors—those strategies may ultimately be the wisest course of action.

High-risk students are also most likely to benefit directly from preventive interventions, particularly if interventions can demonstrate effectiveness at actually changing risk. A major emphasis may be placed on reducing risk, but this approach should not be used to the exclusion of attempting to promote positive, protective factors. In the end, both may be needed.

Students at low risk, on the other hand, may need little in the way of protection enhancement, primarily because they will already have access to the resources they might need to enhance protective qualities. A combination of both strategies may ultimately be the best way to promote school achievement and to reduce multiple problem behaviors, such as substance use and violence.

A number of risk and protective factors are within the domain of educators to address, notably those related to the individual, the peer group, the school, and possibly the family. The most practical approach for schools is to change what they can—to focus on the risk and protective factors identified in this report that are the most easily achievable and require the least amount of initial coordination and special efforts.

### *Reference*

Pollard, J.A., Hawkins, J.D., & Arthur, M.W. (1999). Risk and protection: Are both necessary to understand diverse behavioral outcomes in adolescence? *Social Work Research*, 23, 145-158.

## Stages in the Development of Adolescent Smoking

Summary by William B. Hansen, Ph.D.

Numerous researchers have theorized that the acquisition of cigarette smoking develops as a series of stages. The purpose of this paper was to conduct an exhaustive review of research on the social, psychological, and biological predictors of the progression of adolescent cigarette smoking from earlier to later stages.

### Importance of the Study

Researchers from diverse disciplines have described smoking behavior in adolescence as progressing through a series of developmental stages. A variety of different social, psychological, and biological factors influence this process, and the nature of their influence may depend on the stage of development and the personal characteristics of the individual. There is, however, a lack of research on assessing the potential for differential effects. The present review is useful in that it compares and summarizes the results of 46 empirical studies on the development of adolescent cigarette smoking.

A general agreement exists among researchers about how to categorize adolescents according to their levels of cigarette smoking:

- Adolescents who have never smoked and have no thoughts or desires to smoke in the near future are considered to be in a **precontemplation stage**. Nearly all adolescents start at this stage.
- Adolescents classified as being in the **contemplation stage** are those who have not tried smoking but are beginning to think about it actively.
- The **initiation/tried stage** occurs when adolescents first try cigarettes. This stage is often thought to be limited to the first few attempts at smoking, which are often met with the immediate discomfort typical of first attempts.
- Adolescents in the **experimentation stage** smoke infrequently. During this stage the focus of smoking is on learning how to inhale without coughing and on learning how to handle the cigarette. Adolescents often gradually start to smoke more often and in a greater variety of contexts (e.g., at parties, with family members). In this stage they are actively deciding whether smoking is for them. Those who continue through this stage are more likely to emphasize the positive rather than the negative consequences of smoking.
- Adolescents in the **regular smoking stage** smoke regularly but not every day. They have learned to handle the harsh aspects of smoking and are comfortable smoking in many situations.
- Adolescents in the final stage, **established/daily smoking**, smoke every day or almost every day. These smokers may be addicted to nicotine and find it difficult to quit smoking.

This review examined whether different predictors existed that would account for the progression from one stage to the next. For example, theories often suggest that moving from precontemplation to contemplation and initiation should be most strongly influenced by an adolescent's peers and family. On the other hand, the transition to experimentation should be primarily a result of influences from peers, not the family; and the transition to regular smoking and addiction should be a function of the perceived benefits of use, the use of cigarettes to alter moods and cope with stress, and the presence of physiological signs of addiction, such as withdrawal.

### Sample and Methods

The review included 46 empirical studies of predictors of the stages and transitions of adolescent smoking. Each study was classified according to its research design.

Four categories of studies were included. Category 1 studies (11 studies) had cross-sectional (only one-time sample) designs. Category 2 studies (19 studies) collected data from two time periods (typically separated by 12 months); they also typically combined higher levels of smoking behavior into one group. Category 3 studies (9 studies) were longitudinal and differentiated among smoking stages at high levels of use. Category 4 studies (7 studies) also had longitudinal research designs and examined individual growth patterns and differing rates and characteristics of growth in smoking behavior.

### Findings

None of the studies examined provided information on what accounts for the transition from precontemplation to contemplation. In most cases researchers have treated as a single group all adolescents who have not yet smoked and labeled them as nonsmokers—implying no experience at all with cigarettes.

Both the cross-sectional studies (category 1) and the individual growth pattern studies (category 4) included an examination of risk factors that would account for transition from nonsmoking to initiation. The list of predictors for this transition are being male, having easy access to smoking materials, experiencing parental permissiveness toward smoking, having friends who smoke, holding exaggerated beliefs about smoking norms (exaggerating how many others of the same age or from the peer group actually smoke), and having prior marijuana and alcohol use.

Studies identified a number of factors that predicted the transition from either non-smoking or initial use to experimental smoking. The list of factors that predicted this transition can be broadly grouped into several categories. Social influences are having friends who smoke, holding exaggerated beliefs about the norm (including a perceived positive attitude about smoking among friends), having a best friend or peers who smoke, having parents and siblings who smoke and parents who are permissive about smoking, and living with family conflict. Attitudinal predictors are having a tolerant attitude toward deviance and a belief in the positive functions of smoking and expressing intentions to smoke (or not having a commitment to

avoid smoking). One environmental factor was important: having easy access to cigarettes. Several personal factors were also important: concerns about body weight, problems with affect (stress or other emotions) management, depression and anxiety, other drug use, and low academic expectations for oneself or below average school performance. Finally, two demographic variables also predicted the transition from initiation (or in some cases, nonuse) to experimentation—being male and being white.

The factors that predicted either regular use or the transition from experimental to regular smoking were essentially identical to the factors that predicted the earlier stage of use (regular use) and the transition from nonuse to experimental use.

Finally, a slightly smaller list of factors predicted the transition from regular to habitual smoking: management of feelings, a belief in the positive functions of smoking, intentions to smoke, a tolerant attitude toward deviance, an exaggerated belief about the prevalence of smoking among the same-age peer group, a positive attitude about smoking among friends, the presence of other drug use, parents and siblings who smoke, and low academic expectations for oneself. For females family conflict also facilitated this transition. Withdrawal symptoms, characteristic of addiction, were not included but were probably not assessed in the studies that were reviewed.

The researchers concluded that there appeared to be much less distinction among which factors accounted for transitions from earlier to later stages of smoking than they had anticipated. That is,

with very few exceptions, the factors that lead an individual to try cigarettes are the same factors that appear to account for an acceleration in use later on. Generally, each of these factors appears to become increasingly more intense among those who make transitions to higher levels of use.

### Strengths and Limitations

The strength of this endeavor was its attempt to summarize the findings of an exhaustive list of research studies that address the stages of adolescent smoking.

One limitation of this review is that it assumes the existence of distinct stages. This assumption may make sense for those who wish to have a theoretical starting place for examining the process of becoming a smoker. However, it may be that this process is not differentiated into stages and transitions. It is possible to argue that the development of smoking—that is, the increased frequency of smoking that is typically observed as youths grow older—is continuous over time (not stage-like) and is a function of one underlying set of processes.

At the same time, it is clear that researchers have not been consistent in the way in which they have classified smokers, and some blurring of stages may somehow account for the lack of differentiation among stages. The process of relabeling the stages to be more inclusive may have limited the likelihood of finding unique predictors of smoking stages and transitions. A different measurement scheme may have identified stage-specific or transition-specific predictors. Perhaps a simpler categorization scheme would yield expected results.

### Meaning for Practitioners

This article provides support for considering multiple individual, family, and social factors as influences on the development of adolescent cigarette smoking. That is, it is likely that one factor alone does not account for the onset and progression of cigarette smoking among teens. It may be helpful for prevention and early intervention efforts that the same factors accounted for onset and progression. Few factors were found to predict uniquely any given smoking stage or stage transition.

This review emphasizes the factors that researchers have identified that are the basis for much of the development of prevention programs. Many prevention programs focus on correcting exaggerated beliefs about smoking norms, strengthening intentions to avoid smoking, strengthening beliefs that short-term and social consequences of smoking will occur (e.g., that smoking

will be dysfunctional in some personal way), and weakening beliefs that smoking will have benefits. Many programs also work to help parents express disapproval about smoking and understand that their attitude and behavior can change the behavior of their children.

The fact that below-average school performance predicts smoking suggests that efforts to give help to educationally challenged students may benefit not only academics but behavior as well. However, it may also be possible that experimentation with cigarettes and other deviant behaviors may cause a decrease in attention to school. Such patterns can become self-reinforcing unless there is active intervention to alter their course.

### Reference

Mayhew, K.P., Flay, B.R., & Mott, J.A. (2000). Stages in the development of adolescent smoking. *Drug and Alcohol Dependence*, 59, Suppl. 1, 61-81.

# Exposure to Brand-Specific Cigarette Advertising in Magazines and Its Impact on Youth Smoking

Summary by William B. Hansen, Ph.D.

The purpose of this study was to determine the impact of exposure to brand-specific cigarette advertisements in magazines on brand-specific cigarette smoking among young people.

### Importance of the Study

Researchers have speculated for some time about the role of cigarette advertising in the initiation of youth cigarette smoking. Evidence exists that cigarette advertising in magazines targets young people. However, few studies have examined the relationship between cigarette advertisements and youth smoking. The unanswered question is, Does exposure to the advertising of a particular brand of cigarettes increase the use of that particular brand among young people? Research that answers this question will provide answers to questions about the influence of cigarette advertising on smoking by adolescents.

### Sample and Methods

The study involved 627 participants in Massachusetts between the ages of 12 and 15 who were initially interviewed in 1993 and then interviewed again four years later. At the beginning of the study (baseline), participants were asked which magazines they had read in the past 30 days. Exposure to brand-specific cigarette advertisements was assessed using a “gross impressions” method of calculating exposure. This method uses the total number of pages of

brand-specific advertising to which a youth could have been exposed in one year in any given magazine.

Adolescents were interviewed regarding their smoking habits at baseline and again four years later. Smoking status was classified as “nonsmokers,” “new smokers” (those who did not smoke at baseline but did at follow-up), and “current smokers” (those who had smoked during the 30 days before both surveys). Individuals who had ever smoked were asked which brand they smoked most often when they first started. Current smokers were also asked which brand they smoked most often.

Data from the 1993 Teenage Attitudes and Practices Survey were also used in this study. The Centers for Disease Control and Prevention conducted this national telephone survey that included self-reports about brand preferences.

### Findings

Of all the magazines involved in this study, *Sports Illustrated*, with the second highest number of cigarette advertisements, was read most often by the participants (45 percent). *People Magazine* had the greatest number of full-page advertisements devoted to cigarette advertising.

Findings about potential total exposure for the sample were based on the number of participants who indicated that they read a particular magazine and the extent to

which that magazine included advertising for each cigarette brand. According to this analysis, study participants were most often exposed to magazine advertisements for the following cigarette brands: Marlboro (36.9 percent of total exposure), Camel (13.6 percent), Kool (11.2 percent), Newport (11.1 percent), and Winston (9.0 percent). Each of the other brands (Merit, Capri, Virginia Slims, Parliament, Benson & Hedges, Salem, and Kent) had less than 5 percent of the total exposure. The order of exposure to the top five brands was the same for males. Females were less exposed to Kool (7.8 percent), and more were exposed to Capri (8.5 percent) and to Virginia Slims (8.0 percent). These last findings suggest adaptive targeting of advertisements on the part of cigarette advertisers.

Five brands were smoked the most frequently by teenagers nationwide in 1993. Specifically, 49.5 percent of teenagers reported smoking Marlboro, 13.0 percent reported smoking Camel, 3.7 percent reported smoking Kool, 19.4 percent reported smoking Newport, and 2.8 percent reported smoking Winston cigarettes. All other brands were smoked by less than 0.5 percent of adolescents. The prevalence of brand preference was correlated with the exposure to advertising that had been assessed (0.96) among teens in the study.

During the four years of the study, those who started smoking began most often with Marlboro (56.0 percent). The next most common cigarettes to be used among this group were Newport (22.9 percent), Camel (10.1 percent), Parliament (5.5 percent), and Winston (1.8 percent). The brand students began to smoke was also correlated with each brand's advertising exposure (0.93).

Finally, in 1997 measurements from the study showed a relationship between advertising exposure and participants' preferences for brands. Two brands, Marlboro (41.9 percent) and Camel (33.1 percent), attracted the most attention from students. The increase in attention to Camel followed the introduction of the Joe Camel advertising campaign.

### Strengths and Limitations

The major strength of this study is its longitudinal approach to exploring a relationship not previously documented in the research literature. Notably, this research provides evidence that cigarette advertising in magazines read by young people is correlated with youths beginning to smoke. Exposure to advertisements was determined by self-reports from youths about magazine preferences, not on recall of advertisements. This approach is an improvement over that used in previous studies that relied solely on recall from participants about advertising.

These findings do not necessarily lead to the conclusion that cigarette advertising causes youths to try smoking. It is possible that advertising does prompt youths to experiment with cigarettes. However, other factors (e.g., peer and parent influences and non-magazine forms of advertising) are also expected to be important in explaining why youths decide to experiment with cigarettes. These findings do not dismiss claims by the tobacco industry that youths use advertising only to select brands once smoking has actually been initiated.

One caveat must be observed because of the methodology used to determine advertising exposure. The fact that youths reported reading a particular magazine

cannot guarantee that they saw the cigarette advertisements. In addition, exposure to advertisements of a particular brand of cigarettes could have changed from the baseline testing to the follow-up testing. New research methods are needed for overcoming these obstacles.

Finally, the strength of the relationships observed—which are comparatively strong statistically speaking—are undoubtedly due to the extremely high advertising exposure and popularity of one brand of cigarettes, Marlboro.

### Meaning for Practitioners

The results of this study suggest that a relationship exists between increased exposure to brand-specific cigarette advertisements and greater use of that particular brand to initiate smoking or to smoke regularly. These findings suggest that adolescents could make decisions to smoke because of an image or a theme presented in an advertisement that they wish to emulate. The findings of this study

indicate that cigarette advertisements should be minimized in magazines that are often read by youths. The proliferation of advertising has recently been countered by such activist groups as The Truth Campaign <[www.thetruth.com](http://www.thetruth.com)>. Activities that promote advocacy against tobacco may use advertising as a springboard.

Youths should be taught media literacy skills for understanding and countering manipulations by advertisers. Advertisements typically contain subtle and systematic manipulations to sell their products. Examining advertisements can make students aware of these manipulations and lead them to view advertising more critically. This approach is particularly true of cigarette and alcohol advertisements, which rarely tout the benefits of product use.

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Pucci, L., & Seigel, M. (1999). Exposure to brand-specific cigarette advertising in magazines and its impact on youth smoking. *Preventive Medicine, 20*, 313-320.

## Hutchinson Smoking Prevention Project: Long-Term Randomized Trial in School-Based Tobacco Use Prevention—Results on Smoking

**Summary by William B. Hansen, Ph.D.**

The Hutchinson Smoking Prevention Project, a 15-year study funded by the National Cancer Institute, was designed to test a state-of-the-art school-based smoking prevention program. The intervention, characterized as a social influence intervention, was designed to address content areas suggested by a panel of prevention experts who had been convened earlier by the National Cancer Institute.<sup>5</sup>

### Importance of the Study

This study is important because of its large size, its long-term follow-up of students, its intent to test a state-of-the-art social influences program, and its outcomes, which were disappointing.

### Sample and Methods

The initial sample consisted of 8,388 students from 40 school districts in Washington State. Districts were randomly assigned either to participate in the program or to serve as treatment-as-usual controls. Analysis of pretest data demonstrated equivalence between the two groups in percentage of students who had smoked, the percentage of students whose parents smoked, and the percentage of students living in a single-parent household.

Students in the treatment group received instruction from their teachers. The program provided a yearly intervention to students from the time they were in third grade until their last year of high school. In elementary schools all teachers participated in delivering the program. In middle or junior high schools and high schools, a single course that all students were required to take was chosen for delivery of the program. The program was structured to include interactive teaching methods, such as discussions and hands-on activities. Areas covered by the intervention are:

1. General health motivations
2. Long-term health effects
3. Short-term health effects
4. Cosmetic and social effects
5. Physical fitness and sports effects
6. Monetary costs of smoking
7. Addiction
8. Environmental tobacco smoke
9. Effects of smoking on the family
10. Skills for identifying the nature of peer influence
11. Skills for identifying advertising and media influences

<sup>5</sup> This article is also discussed in *Getting Results*, Update 2, based on information provided by Steve Sussman, William B. Hansen, Brian Flay, and Gil Botvin.

12. Skills for identifying actions of the tobacco industry
13. Skills for resisting social influences
14. Skills for analyzing advertising
15. Helping others avoid tobacco
16. Correcting misperceptions about the prevalence of tobacco use
17. Promoting tobacco-free norms
18. Building self-efficacy for nonsmoking
19. Enlisting positive family influences

Student follow-up surveys were administered only twice during the course of this project. The first survey was administered at the end of students' 12th grade year. The second survey was administered two years later. Both surveys included questions about the frequency of current regular smoking. Additional questions on the 12th grade survey asked about smoking during the past seven days and lifetime experience with cigarettes. For the 12th grade follow-up test, 7,723 students (of the original sample of 8,388 students) were successfully resurveyed, with 3,847 treated and 3,876 controls. Two years later 7,775 students were surveyed, with 3,881 treated and 3,894 controls.

### Findings

At the 12th grade follow-up, the prevalence of smoking for the control group (25.7 percent) and for the treatment group (25.4 percent) was nearly identical and was neither statistically nor practically different. This trend persisted during the next two years. The overall prevalence of smoking at the two-year follow-up was 29.1 percent for students who had been controls and 28.4

percent for students who had been in the program. Essentially, the results for students who had participated in the Hutchinson Smoking Prevention Project were no different from those for students who had not participated in this program.

The range of smoking observed among the different schools within the control group and within the treatment group was rather broad. For example, among the 20 control schools the prevalence of daily smoking ranged from 5.95 percent to 42.2 percent. Similarly, among the 20 treatment schools, daily prevalence ranged from 13.5 percent to 35.7 percent. Thus, schools differed markedly in the prevalence of smoking that was observed.

### Strengths and Limitations

The overall design for this project is strong in several ways. A large number of schools were randomly assigned either to receive or to not receive the program. It was designed to include widely agreed-on strategies and continued through multiple years. Teachers were extensively trained and monitored.

At the same time, notable weaknesses appeared in the design as well. The design of most prevention research has included multiple intermediate measures. This project had only two sets of end-point measures, one in 12th grade and one two years later. During the middle years of the project, the prevalence of smoking was inferred by asking students to recall when they started smoking; however, this method is not reliable.

The second weakness was the lack of measurement to assess the effects of the program on targeted risk and protective

factors. Programs that have been effective in the past have had powerful effects on intermediate outcomes, such as changing beliefs about peer norms, strengthening commitments to avoid smoking, and developing antismoking attitudes. Simply trying to change these factors by designing a program that purports to address them is insufficient. If the program failed to change these intermediate outcomes, there would be no hope of affecting smoking among participants. Because of the failure to change smoking prevalence among those who participated in the program, it is quite likely that the program did not have sufficient ability to make these changes.

The final weakness of note is in generalizing findings beyond this study. There are many projects that have successfully deterred the onset of smoking—particularly during a one- and two-year period after the introduction of the program. Even though many of these studies have not followed students as long as the Hutchinson study has, they have enjoyed measurable success in reducing the prevalence of smoking. What can be said is that the design for this program apparently did not work. Other programs that focus on similar topics may, in fact, succeed.

### Meaning for Practitioners

It is clear that not all programs—even if they appear to be designed around commonly accepted principles—will always work. This project attempted to fulfill guidelines that national experts had laid down during the 1980s. It nonetheless failed to achieve a prevention outcome. Without data that can clearly identify where the project failed, researchers can only conjecture about what

should have been done but was not or about how things that were done could have been done better. Teachers and administrators are advised to adopt programs that demonstrate empirically a promise for effectiveness—even a short-term promise. The second recommendation is that no matter which program is adopted, those who deliver it should make sure that the changes it intends are targeted and then measured to determine whether they have been achieved.

Teachers and school administrators should not overlook one final lesson to be learned from this study: By the end of the study, schools had markedly different rates of smoking among them. The lack of documentation about the background of students and the existence of strong policies and alternative programs leave unanswered the question of why some schools managed to do better than others regardless of which experimental group they were in. Undoubtedly, some of the more successful schools might have been described in some consistent demographic manner. For example, there may have been differences in rates of parental smoking or in socioeconomic status among these schools. Nonetheless, there is hope that some type of intervention—even if undocumented and not systematically implemented—might account for these differences.

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Peterson, A.V., Kealey, K.A., Mann, S.L., Marek, P.M., & Sarason, I.G. (2000). Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention—Results on smoking. *Journal of the National Cancer Institute*, 92(24), 1979-1991.

## Connecting Risk and Protective Factors to Prevention

Commentary by William B. Hansen, Ph.D.

A key feature of the research on substance use, delinquency, and other high-risk behaviors has been a focus on characteristics broadly known as risk and protective factors. Researchers seem preoccupied with understanding and documenting these characteristics. On the other hand, practitioners focus on finding programs that work and that can be inexpensively and easily delivered in their own setting. The purposes of this commentary are to help educators to understand the practical importance of risk and protective factors and to help them become better consumers so that they can make informed decisions about the program and policy options they are considering.

To begin, let me provide some examples that might clarify the importance of understanding how things work. Without doubt, we live in an age dominated by technology. Indeed, there is practically nothing within your sight as you read this that has not been touched and framed by technology. Most of us do not understand the technologies—they are simply provided to us and we use them.

It is usually only when we are either buying new technology or repairing broken technology that we realize the complexity we are dealing with. We rely on those who design and repair technology to understand how things work and make them easy for us to use.

In many ways, prevention has entered a new phase—one that will be dominated by

technologies that have been designed in much the same way as have the other technologies in use. Unfortunately, in comparison with the sophisticated technology found in transportation, communication, and other systems, prevention technology is still in its infancy. The development of reliable, effective, user-friendly interventions will take years. At the present stage of development, considerable effort and expertise are required to make the available programs work as they were intended. How prevention programs will look in the future has already been charted, and the manipulation of risk and protective factors will most likely be the central element.

Simply stated, any prevention effort that works does so by changing one or more risk or protective factors that, in turn, suppress unwanted behaviors.

The major arguments among most prevention researchers are, Which factors are important to target for change? How can this change be accomplished?

### Important Factors

There has been significant controversy about which factors should be targeted in prevention programs. One major issue that has been debated is whether the difference between risk and protective factors is clear or whether labeling some factors as risks and others as protections is creating an artificial distinction. For instance, it has been argued that whenever a protective factor or asset is missing, that circumstance

becomes a risk. As a consequence, some researchers focus primarily on risks, and others focus primarily on assets.

The crucial questions to resolve are whether to label factors as deficits or as assets or whether to focus interventions on correcting deficits or on building assets. Focusing on this *deficits versus assets* issue produces interesting—and often heated—debates. However, this issue takes attention away from the more important task.

The important task that truly deserves attention is understanding which factors (whether they be deficits or assets, risk factors or protective factors) are, in fact, the most important ones to address to accomplish goals of promoting health or preventing unhealthy behavior. Reducing deficits or building assets will not matter if the focus is on factors that influence the behaviors to be prevented (such as drug use, delinquency, and premature sexual activity) or promoted (such as academic achievement and pro-social involvement in society).

In part the need for simplicity determines which specific factors are worthy of attention. David Krech, an early social psychologist, once observed that “anything that is complex will, upon closer examination, become even more complex.” Complex programs are difficult to deliver, require more effort and coordination than are often possible to sustain, and typically fail for one or more reasons. In Update 1, Peter Benson introduced the Search Institute’s approach that involves assessing and building 40 different assets (see pages 22 and 23 in that update). In this update I summarize the research by Pollard, Hawkins, and Arthur that addresses 21 different risk factors and 7 different

protective factors. Lists of either 40 assets or of 21 risk factors and 7 protective factors are too complex. A question to be asked of the authors of both studies is, Of the long lists you have provided, which factors are the most important to target for change?

Fortunately, there is a way to answer that question. During the past two decades, researchers have developed the ability to examine how effective programs achieve the outcomes that are observed. This method, called *mediating variable analysis*, focuses on examining which factors that programs target for change account for subsequent changes in behavior.

Two well-founded assumptions form the basis of mediating variable analysis. The first is that a factor that can be used to produce differences in behaviors (such as substance use) after a program has been delivered must be strongly related to the behavior in the first place. In fact, the stronger the natural relationship between a factor and the behavior, the more likely that factor will be an effective agent in changing behavior. This statement is the same as saying that not all factors are created equal. From whatever list of factors a selection is made, those factors shown to be more highly correlated with substance use are the ones that are more likely to have an impact on substance use if they are changed.

Consider two factors, one proposed on the Communities That Care list (drug use among peers) (Pollard, Hawkins, & Arthur 1999, 148) and one that is present on the Search Institute’s list (high self-esteem) (see *Getting Results*, Update 1, page 23). Are they equally important in preventing substance use? The answer is no. Drug use among peers (particularly perceptions

about drug use among peers) is more important than is high self-esteem in preventing substance use. Perceived drug use among peers is among the most highly predictive factors of substance use, but self-esteem has almost no relationship to whether or not a young person will start using substances. (There are young people using substances who feel very good about themselves and feel well accepted by their peer group—an unfortunate paradox that makes low self-esteem a poor predictor of substance use.)

The second assumption of mediating variable analysis is that programs achieve their effectiveness by changing strongly related factors. Three published studies have examined how programs have achieved their outcomes. One is by David MacKinnon and his colleagues as they examined how Project STAR, the curriculum used in the Midwest Prevention Project, achieved its effects. Another is by Gil Botvin and his colleagues examining how Life Skills Training achieved its effects. The third by Stuart Donaldson and his colleagues examined why the norm-setting program (now part of All Stars) of the Adolescent Alcohol Prevention Trial worked. In each case these programs worked because they were able to alter perceptions about the prevalence of drug use.

These analysis studies reinforce the concept that changing a limited number of factors can lead to the prevention of substance use. In many respects it is remarkable that programs are able to produce changes in almost any factor that truly accounts for substance use. Beliefs about peer norms

may be highly ingrained, and changing them can seem a daunting—although clearly not an impossible—task.

Focusing on too many factors simultaneously will mean that none of them will be addressed sufficiently well. Of course, addressing too few factors will have the same net result. A Japanese proverb speaks correctly about this dilemma, “Too much is the same as too little.”<sup>6</sup> The key is to find the appropriate balance. Nearly every prevention intervention designed focuses on multiple factors but most wisely attempts to address only a limited number of these factors. The most effective and efficient programs have judiciously selected a limited number of factors—those factors that are highly related to the behavior and that are most likely to be effectively changed—and have vigorously pursued changing them.

### **The Recommended Approach for Accomplishing Change**

Practitioners can use the following approach to adopting or building strong prevention programs:

- 1. Identify a limited number of modifiable factors that are strongly related to substance use in the population you serve.**

A large body of research examines which factors hold the most promise. Several articles summarized in this update to *Getting Results* (Hansen & McNeal 1999; Mayhew, Flay, & Mott 2000; Pollard, Hawkins, & Arthur 1999) provide an initial list that includes such factors as the perception of peer norms (which are often

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<sup>6</sup> In the Japanese language, this proverb is expressed as *Sugitaru wa oyoubazaru ga gotoshi*.

exaggerated and therefore correctable through intervention), bonding to school (which can be promoted by providing opportunities for reward and involvement in academic and extracurricular activities), commitment to avoid substance use (which can be strengthened through systematic intervention), access to substances (which can be reduced through environmental interventions), and an attitude that promotes a personal unwillingness to tolerate deviance (which may be addressed by establishing conventional norms). Because of the frequency with which these factors have been observed to predict the onset of substance use, it is quite likely they will be among the factors that should be considered for various populations of adolescents. Nonetheless, unique factors that may also emerge for a specific population might be explored too. Surveys that include measures of these factors abound and can be easily obtained from state and federal sources and from evaluation consultants who have experience with substance abuse prevention.<sup>7</sup>

It is, of course, easier to accept a list of factors that is supplied by an expert. Experts—who may disagree with each other vehemently—are fond of defending their list and approach. If time and resources do not exist to conduct local research, getting expert advice is the next best thing. However, as with all advice, multiple opinions should be sought. Facts should be separated from opinion, and experts should be asked to defend their conclusions with data.

### **2. Examine existing strategies to determine the degree to which there is a match between strategies and factors that need to be changed.**

Organizations tend to obey Newton's First Law of Motion—the one about inertia. Nearly all organizations like to keep things the same and to avoid change wherever possible. However, ensuring that programs and policies are addressing factors that need to be changed requires a careful periodic consideration of the degree to which existing strategies address factors that have been identified as important. As a part of this process, it may be worthwhile to review articles, such as those in the *Getting Results* series, to be sure that the concepts accompanying the factors being considered are clearly understood.

### **3. Discover ways to strengthen and intensify the approaches of programs and policies that already target relevant factors.**

Many schools and agencies with services to youths already do many things correctly. However, it may be necessary to increase the amount of time and attention given to altering important factors. For example, do health education classes exist? If so, do health education teachers address such topics as setting norms? If there are no health education classes, where else can the factors be targeted? If this topic were reinforced in language arts, science, mathematics, physical education, home economics, and social studies, the potential for changing students' lives would be greatly enhanced.

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<sup>7</sup> See, for example, The Center for Substance Abuse Prevention, Core Measures Initiative.

Strengthening and intensifying promising approaches may be the most cost-effective way to turn a promising approach into a noticeably effective one.

**4. If programs and policies do not target relevant factors, adopt new strategies that can address these factors and implement the new strategies with fidelity.**

Many of the promising and proven research-based programs that have been recently introduced commercially have adopted a factor-centered approach.<sup>8</sup> Once a new program is adopted, it should be implemented with attention to quality. Poorly implemented programs never work. One way to verify quality of delivery is to collect surveys from students that assess targeted factors to determine whether positive results are obtained and whether programs are actually delivered to more than a small percentage of students.

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<sup>8</sup> For example, Life Skills Training, Project ALERT, and Project STAR target self-esteem; skills for decision making, goal setting, stress/affect management, resistance/refusal, communication; expectancies; and normative beliefs. All Stars targets normative beliefs, idealism, commitment, bonding to school, and positive parental attentiveness. See also *Getting Results*, Update 2, for classroom programs that have been designated as exemplary or promising by CDE's *Getting Results* series, the U.S. Department of Education's Expert Panel, the Center for Substance Abuse Prevention, and the *Blue Book for Violence Prevention*.

## Chapter 3

# Research on Strategies for Effective Prevention Programs



**CHAPTER 3**

# Research on Strategies for Effective Prevention Programs

Chapter 3 consists of summaries written by Patrick Aaby and Cheryl Perry of four research studies on various approaches to prevention, such as peer-led instruction, promotion of social bonding of youths with others, and comprehensive school-

community efforts. The chapter ends with a commentary by Cheryl Perry on the importance of multiple-component programs in prevention that include not only students and teachers but also parents and the community.

*Table 2*

## Summary of Research in Chapter 3

Title of Article	Description	Outcomes/Program Effects	Importance	Page
Preventing adolescent health-risk behaviors by strengthening protection during childhood. Hawkins, J.D., Catalano, R.F., Kosterman, R., Abbott, R., & Hill, K.G. (1999). <i>Archives of Pediatrics and Adolescent Medicine</i> , 153, 226-234.	Evaluation of Seattle Social Development Project that promotes bonding of children to parents and school, grades 1-6	At age 18, students exposed to all years of intervention reported greater commitment to school; better academic achievement; and less involvement in violence, sexual intercourse, heavy drinking.	Healthy social bonds that children have with families, schools, and communities are a preliminary step in promoting adolescents' health.	37
Project Northland high school interventions: Community action to reduce adolescent alcohol use. Perry, C.L., Williams, C.L., Komro, K.A., Veblen-Mortenson, S., Forster, J.L., Bernstein-Lachter, R., Pratt, L.K., Dudovitz, B., Munson, K.A., Farbakhsh, K., Finnegan, J., & McGovern, P. (2000). <i>Health Education &amp; Behavior</i> , 27(1), 29-49.	Evaluation of Phase 2 of Project Northland, a school-community intervention to delay and reduce adolescent alcohol behaviors	Less drinking by intervention students at end of 11th grade. Intervention is continuing.	This study extends into high school a well-known effective elementary school alcohol prevention program. The article also provides detailed information about the intervention and its evaluation.	39

Table 2

## Summary of Research in Chapter 3 (Continued)

Title of Article	Description	Outcomes/Program Effects	Importance	Page
<p>Peer helping/involvement: An efficacious way to meet the challenge of reducing alcohol, tobacco, and other drug use among youth?</p> <p>Black, D.R., Tobler, N.S., &amp; Sciacca, J.P. (1998). <i>Journal of School Health</i>, 68(3), 87-93.</p>	<p>A meta-analysis of 120 adolescent drug use prevention classroom-based programs to examine the role of peers</p>	<p>Interactive peer-led classroom-based programs for middle and junior high school students are statistically superior to non-interactive didactic programs led by teachers or researchers.</p>	<p>Incorporating peer involvement and leadership may strengthen drug-use program implementation. Training for teachers and peers to implement peer-led programs is important.</p>	43
<p>Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program.</p> <p>Eggert, L.L., Thompson, E.A., Herting, J.R., Nicholas, L.J., &amp; Dicker, B.G. (1994). <i>American Journal of Health Promotion</i>, 8(3), 202-215.</p> <p>Reducing suicide potential among high-risk youth: Tests of a school-based prevention program.</p> <p>Eggert, L.L., Thompson, E.A., Herting, J.R., &amp; Nicholas, L.J. (1995). <i>Suicide and Life-Threatening Behavior</i>, 25(2), 276-295.</p>	<p>Two studies of the Reconnecting At-Risk Youth Program, a youth-development program designed to increase school bonding and decrease bonding to deviant peers, grades 9-12</p>	<p>Study 1 showed a significant increase in GPA, self-esteem, and school bonding and a decrease in drug control problems and deviant peer bonding. Study 2 decreased suicidal behaviors, depression, hopelessness, and stress and increased personal control, self-esteem, and social support.</p>	<p>This program showed positive results with at-risk youths who were exhibiting symptoms of problem behaviors and were often overlooked by schools.</p>	46

## Preventing Adolescent Health-Risk Behaviors by Strengthening Protection During Childhood

**Summary by Cheryl L. Perry, Ph.D.**

This paper reports on how a multicomponent, multiyear intervention with public elementary schools in Seattle affected the cohorts at age 18. The study took place when the targeted cohort was in the 1st through 6th grades. The intent was to evaluate whether an intervention that increased social competence and skills among teachers, parents, and students would affect health-risk behavior in adolescence.

### Importance of the Study

The findings from this evaluation study are important because they suggest that the programs of the Seattle Social Development Project presented during the elementary school years might serve as a preliminary and even necessary step in promoting health among adolescents by creating an appropriate, positive, and consistent orientation toward schooling and achievement. The intervention, aimed at teachers, parents, and students in grades 1 through 6, promotes bonding between children and their parents and schools and other healthy adults. The intervention was the most successful with sexual behavior and academic achievement. Since there were few drug use outcomes at the end of the study, additional interventions in grades 7 through 12 appear to be needed to delay or prevent the onset of tobacco, alcohol, and other drug use.

### Sample and Methods

Eighteen elementary schools participated in the study. The intervention consisted of (1) yearly in-service training of teachers on proactive classroom management, interactive teaching, and cooperative learning among students; (2) training in social competence of students in the 1st and 6th grades; and (3) parent training classes of students in the 1st through 3rd and 5th through 6th grades to provide skills to promote children's academic achievement and to reduce children's risk of drug use. Students were surveyed at age 18, six years after the end of the intervention program.

### Findings

At age 18 the students exposed to the entire intervention reported less involvement in violence, sexual intercourse, and heavy drinking; greater commitment to school; and better academic achievement. While the intervention had the greatest effects on school-related and sexual behaviors, there were no effects on criminal behavior, smoking, alcohol use, marijuana use, or other drug use (except for heavy drinking). Students exposed only to the intervention in 5th and 6th grades did not demonstrate these long-term outcomes, suggesting that an intervention embedded in the entire elementary school experience can have significant and lasting effects on adolescent behavior.

### Strengths and Limitations

Strengths of the study include its focus on low income, minority youths; the retention of subjects after six years; and the consistency of the results with the theory. Weaknesses include the low participation rates by parents, the lack of effects on drug use, not controlling for the effect of the school in the analysis (not taking into account the statistical impact of something unique that may have occurred at a particular school), and a limited explanation of how the intervention was successful.

### Meaning for Practitioners

The study and the intervention provide direction for what can be done in communities before students reach adolescence. It seems important to increase the healthy

social bonds that children have with their families, schools, and communities so that academic achievement becomes a higher priority throughout adolescence. The programs in the Seattle Social Development Project are quite comprehensive and designed to reduce risk among high-risk youths and to strengthen protection. However, the outcomes indicate that increasing healthy social bonds in elementary school alone is not enough and that further prevention efforts are needed in middle and junior high school and high school.

### Reference

Hawkins, J.D., Catalano, R.F., Kosterman, R., Abbott, R., & Hill, K.G. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics and Adolescent Medicine*, 153, 226-234.

## Project Northland High School Interventions: Community Action to Reduce Adolescent Alcohol Use

### Summary by Patrick Aaby, Ph.D.

The goal of Project Northland was to delay the onset of and to reduce adolescent alcohol use by promoting change in both social-environmental and personal factors.

### Importance of the Study

Alcohol use is prevalent among adolescents throughout our society. Linked to auto crashes and violent behavior, alcohol use is a major cause of disability and death in this age group. Because of its pervasiveness, it is a particularly difficult behavior to prevent or eliminate. Project Northland is an intervention program that sought to delay and reduce adolescent use of alcohol by targeting both supply and demand. The program included strategies for individual behavioral change and broader approaches toward changing community norms. As one of the largest, best-documented alcohol use prevention projects in the country, Project Northland provides important information for practitioners and researchers interested in implementing community-based or school-community interventions. Results from the first phase of the project showed lower rates of alcohol consumption and a decrease in the use of cigarettes and marijuana for young adolescents participating in the program.<sup>9</sup> During the second phase of the project, the staff members are analyzing the program's

effectiveness with these same young people in high school.

### Sample and Methods

All students who were in the 6th grade in 1991 and were available for subsequent follow-up studies in 24 public school districts were included in this study ( $n = 2,351$ ). The school districts were in six northeastern Minnesota counties with very high rates of alcohol-related problems. School districts were randomly assigned to intervention or control conditions.

The study summarized here documents the second phase of Project Northland, an ongoing alcohol prevention program. The first phase, which ran from grades 6 through 8 and showed positive results that decreased over time, has been well documented in other sources (Perry et al. 1993; Perry et al. 1996). Because alcohol use is so ingrained in our society, it was hypothesized that ongoing developmentally appropriate programs to prevent alcohol use must be promoted during the high school years. Therefore, the second phase of Project Northland consisted of five intervention components: (1) community organizing; (2) parent education; (3) youth development; (4) mass media; and (5) school curriculum.

<sup>9</sup> The first phase of Project Northland is summarized in *Getting Results*, Part I, pages 112-113.

Specific intervention strategies for each of the components listed previously are described as follows:

- **Community organizing.** One-to-one interviews on teen alcohol use with community members, formation of action teams, training of community action teams, training of servers on responsible beverage service, compliance checks on merchants, community festivals, and adoption of community policies and ordinances
- **Parent education.** Postcards sent to parents to increase awareness and encourage action and a contest to encourage parent-child communication about alcohol
- **Youth development.** Videos made by students about alcohol use, regional training for youth action team members, youth day at the Minnesota legislature, alcohol-free social events, ways to avoid alcohol use before and after such events as homecoming and prom, community festivals, “chemical health weeks,” mentoring to younger students, and changes in community policies toward alcohol use
- **Mass media.** Media advocacy concerning teen alcohol and tobacco use, including calendars created for alcohol merchants, messages in church bulletins, media advocacy training for action teams, newsletters, a print media campaign, and celebration posters
- **School curriculum.** 11th-grade curriculum based on a mock-trial program during which students argued cases that involved alcohol-related themes

Action teams, schools, and communities chose the particular activities they employed for most of the components. Because of this customization for each participating group, there was not a standard “dosage” of the intervention. However, some commonalities did exist across groups. For example, all communities conducted one-on-one interviews, averaging more than 100 interviews per organizer. All schools conducted media advocacy training and sent newsletters to action team members and students. All parents of the study cohort were sent 11 postcards at six-week intervals. A detailed listing of participation in each strategy appears in the article (Perry et al. 2000) cited at the end of this summary.

The important point to note is that the priority of all components was in emphasizing normative change because youths’ perceived norms are an important research-based predictor of alcohol use. Project Northland sought to change norms about alcohol use within families, classrooms, schools, and communities.

### Findings

As was done in phase one of the project, great attention was paid to measuring the implementation of phase two. The data collected were measures of participation, compliance, and fidelity. For example, the number of events, interviews, and meetings was recorded as were attendance and content. Written assessments and questionnaires were completed to evaluate trainings and various events. Compliance checks were conducted to assess the extent to which merchants were selling alcohol to minors. Press coverage was monitored for issues related to teen alcohol use. Telephone

surveys were conducted to evaluate the poster and postcard campaigns. Telephone surveys were also completed with police and community leaders to assess enforcement practices and community activities, respectively. Classroom observations were conducted, and teachers were surveyed to assess the fidelity of implementing the school curriculum.

Preliminary analysis conducted at the end of the 11th grade showed less drinking by intervention students; however, this finding was not statistically significant. For students who had not started drinking until the 6th grade or later, lower drinking rates for intervention students at the end of the 11th grade approached significance ( $p < .07$ ). At the end of phase two, process measures will be analyzed against project outcomes to provide an understanding of how and why the intervention worked or did not work. The final results of the intervention will also become available then.

### Strengths and Limitations

Although the first phase of this project has been well tested and documented, the outcomes of phase two remain to be seen. Outcomes measured after one year into the intervention were positive but not statistically significant. However, alcohol behaviors themselves may simply take more than one year to alter and may be especially difficult to stem after a youth has begun drinking. The final results of this intervention will need to be available to evaluate its success. Nonetheless, the interim results are encouraging because the trends are in the right direction, and the wealth of implementation data provides useful insight into the workings of the inter-

vention that should help in the planning of future interventions. The implementation data were also important in making course corrections in project areas that were not being implemented correctly or with enough “dosage.”

### Meaning for Practitioners

The primary lesson from the first phase of Project Northland, documented in earlier studies, was that adolescent drinking can be reduced through comprehensive interventions such as this. With younger children, in grades 6 through 8, focusing on alcohol demand is a strategy that works. However, program designers may be well advised to not treat early alcohol prevention projects as one-time inoculations. The attenuation of intervention results by the 10th grade supports this recommendation. Since this type of attenuation is typical in studies of substance use prevention, administrators would be wise to plan for ongoing booster sessions or interventions into the high school years when the temptation to use alcohol becomes even greater. That planning, in fact, was the intention of Project Northland’s phase two, the focus of this summary.

Intervention designers and adopters can learn from Project Northland’s emphasis on changing norms. Especially for alcohol consumption, which is so insidiously ingrained in societal norms that it can seem daunting to counteract, many strategies can be aimed at individuals, families, schools, and communities to target normative change in a systematic, coordinated manner. Project Northland goes beyond many other alcohol prevention programs by including many of its efforts in a community

domain. Further, it does so in a manner that involves community members in critical decision making that gives them “ownership” of the strategies they choose to implement. It makes sense for school personnel to nurture relationships throughout their communities to broaden the involvement, responsibility, and accountability associated with the advancement of prevention.

It is well known in the prevention field that far too few studies include sufficient information on implementation data. This article provides details about all aspects of the intervention and the evaluation—what was done, why, and by whom; what the outcomes were; and how they were assessed and analyzed. This wide spectrum of data provides educators with adequate information about the program and insight into how program participation, compliance, and fidelity are evaluated; how barriers can be addressed; and how valuable course corrections can be made.

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## Peer Helping/Involvement: An Efficacious Way to Meet the Challenge of Reducing Alcohol, Tobacco, and Other Drug Use Among Youth?

Summary by Cheryl L. Perry, Ph.D.

This study was designed to examine rigorously whether having peer leaders involved in the implementation of drug use prevention programs in schools contributes to positive outcomes of those programs. The study examines earlier programs to determine why inconsistent conclusions may have been drawn in the past, provides examples of two programs that adhere to the principles of the Programmatic Standards of the National Peer Helpers Association, and provides recommendations for designing high-quality, peer-led programs.

### Importance of the Study

This article presents a careful meta-analysis (an analysis of many analyses) of 120 school-based alcohol, tobacco, and other drug prevention programs and concludes that interactive peer-led programs show statistically superior results compared with those from noninteractive programs led by teachers. The article also examines why peer programs have not been universally supported and provides examples and resources for designing and implementing programs that involve peers.

### Sample and Methods

The meta-analysis of 120 classroom-based adolescent drug use prevention programs was a re-examination of a previously published meta-analysis (Tobler & Stratton 1997). By comparing programs on the basis of whether teachers, peers, clinicians, or

others led the program, the authors examine whether having peers as leaders in these programs shows statistically superior results and enhances the outcomes of a program. They then examine and discuss why some professionals have concluded that peer programs are ineffective. The authors propose that the failure to implement the program as recommended is the primary reason for this conclusion. They provide examples of two programs (and studies) that explicitly examined the effects of peer-led versus teacher-led programs and adhered to the standards of the National Peer Helpers Association <<http://www.peerhelping.org>>. These programs are the Life Skills Training Program (Botvin et al. 1984) and the WHO Pilot Study on Alcohol Education in Four Countries (Perry & Grant 1988).

In both of these studies, a teacher-led prevention program was compared with the same program taught by peers. The peer leaders in these programs were responsible for introducing information, leading small-group activities, and organizing role plays. The teachers were also present in the classrooms and were responsible for organizing the peer leaders, classroom management, and large-group activities.

The results from these programs were compared with those from a control group. In both cases, the behavioral results from the peer-led program were significantly greater compared with those from the teacher-led program and the control group.

The studies conclude with recommendations for practitioners, such as focusing on tobacco and alcohol use, targeting at-risk youths, and creating a peer-helping service delivery model.

### Findings

The authors conclude from their data that results from interactive peer-led classroom-based programs for middle or junior high school students are statistically superior to noninteractive, didactic lecture programs led by teachers or researchers. Both the Life Skills Training Program and the WHO Pilot Study demonstrated that a peer-led classroom-based program to prevent drug use was superior to the same program taught by teachers. Programs implemented according to the Programmatic Standards of the National Peer Helpers Association are recommended because those programs seem to have had the most positive outcomes and were not as likely to suffer from failure to be implemented.

### Strengths and Limitations

The article has numerous strengths. The authors explain complicated statistical techniques, provide clear tables and figures, give explanations for prior misconceptions, present two appropriate examples of peer-led programs and their outcomes in detail, and offer suggestions to practitioners for implementing the programs. It would have been helpful if the authors had also provided the references to the counterarguments to their findings. Also, it was not possible to separate the contribution of the peer leaders to the outcomes in the meta-analysis from

the contribution of interactive instruction methods. However, the two representative studies demonstrated greater effectiveness in outcomes showing less or no alcohol and drug use when trained peer leaders (versus teachers alone) were involved in implementing the program.

### Meaning for Practitioners

Incorporating peer involvement and leadership is important for drug use prevention programs in middle and junior high schools. This approach may strengthen the implementation of existing classroom-based programs to prevent drug use. Providing training for teachers and peers to implement peer-led programs successfully is important for this approach to be effective, since it is not widely used as an educational method. Guidelines and standards are available from the National Peer Helpers Association <<http://www.peerhelping.org>> and from program developers who have successfully implemented peer-led programs. Adopting peer-led classroom programs may meet resistance unless teachers and school officials understand the benefits of that approach for a drug use prevention program and for the peers themselves. Policies at the school level to support peer leadership efforts, such as training for the peers, are critical to the longer-term success of the program.

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## The Reconnecting At-Risk Youth Program

Summary by Patrick Aaby, Ph.D.

The Reconnecting At-Risk Youth program is a research-based curriculum that attempts to promote adolescent health through decreased drug use and the prevention of school failure and dropout. Because this program is intensive, implementers sought to increase its cost-effectiveness by targeting it to identified high-risk youths.

### Importance of the Study

Problem behaviors and the risk and protective factors predicting them often occur in clusters. In other words, a particular risk or protective factor can predict one or more problem behaviors, and a particular problem behavior can be predicted by multiple factors. Therefore, it makes sense to develop interventions that target multiple outcomes and multiple predictive factors. The Reconnecting At-Risk Youth program sought to increase the protective factor of bonding to school and decrease the risk factor of bonding to deviant peers. Both of these factors have been linked to drug use and school dropout, two of the targeted outcomes of this program. School dropout, in turn, has been linked to youth suicide, the most critical outcome this intervention seeks to prevent.

### Sample and Methods

This program has been tested in multiple studies. Two studies, each of which focused on different, but related, outcomes are summarized here.

**Study 1** (Eggert et al. 1994a) used a two-group, repeated measures, quasi-experimental design. Youths from four Northwest high schools in grades 9 through 12 participated in the one-semester program from 1989 to 1992. A pool of students was identified as being at high risk of dropping out of school because of their academic performance, school attendance, prior dropout status, and referrals from school personnel. From this pool students were randomly selected and assigned to the experimental or control group and then invited to participate in the intervention. Roughly 70 percent of the experimental group and 84 percent of the control group agreed to participate. For this study these percentages yielded a total  $n$  of 259, experimental = 101 and control = 158. A second experimental group also received a two-semester version of the program, but this group was not included in this analysis.

**Study 2** (Eggert et al. 1995) used a three-group, repeated measures, quasi-experimental design. Youths from five urban high schools, in grades 9 through 12 participated in the study during a three-year period. A total of 105 suicide-risk students were included in one of three groups. Group I received an assessment plus a one-semester Personal Growth class ( $n = 36$ ). Group II received an assessment plus a two-semester Personal Growth class ( $n = 34$ ). Group III received an assessment only ( $n = 35$ ). A two-phase process was used to identify youths who were eligible for the study. The same criteria listed in Study 1 were used to identify an original pool of students as having a high

risk of dropping out of school. From this pool, students were randomly assigned to an experimental or a control condition and invited to participate in a larger study. If they agreed to participate in the larger study, they completed a questionnaire that included items that measured suicide risk. Those youths identified as being at a high risk for suicide were given an in-depth assessment using the *Measure of Adolescent Potential for Suicide (MAPS)*. For ethical reasons all youths receiving this assessment were also introduced to a school “case manager,” and the youth’s parent of choice was contacted and notified of the child’s needs.

The intervention, called “The Personal Growth Class (PGC),” consisted of two intervention components. One was a network that focused on positive teacher-to-student and peer relationships, and the other was a support process made up of group work and skills training. For Study 1 these components were packaged into a one-semester, five-month elective course with a 1:12 teacher-to-student ratio. Study 2 had one-semester and two-semester versions, “PGC1” and “PGC2.” Although the overall course goals were the same for PGC1 and PGC2, PGC2 sought to expand the bonding and skills components from the PGC group setting to broader school and real-life situations.

## Findings

*Study 1.* Trend analysis showed significantly different patterns of change from T1 (preintervention) to T2 (five to seven months postintervention) between experimental and control groups on drug control problems and consequences, grade

point average, self-esteem, deviant peer bonding, and school bonding. However, results on the measure of drug use approached only statistical significance (i.e., were not statistically significant).

*Study 2.* All three groups showed significant declines in suicide risk behaviors, depression, hopelessness, and stress between the preintervention (T1) and ten-month (T3) time points. The ten-month time point was five months after the intervention for the PGC1 group and immediately after the intervention for the PGC2 group. When compared with a randomly selected group of youths from the same schools who were not identified as high risk, all three groups moved toward the normative group mean in suicide risk behaviors. Groups I and III showed the greatest reduction in suicidal behaviors, with over 85 percent (compared with 65 percent for Group II) decreasing such behaviors by at least 25 percent. Groups I and III also had a significant decrease in the level of anger reported between T1 and T3. For protective factors both experimental groups reported a significant increase in the level of personal control. All three groups reported significant increases in self-esteem and social support.

## Strengths and Limitations

In Study 1 youths showed the strongest results while in the program. By the follow-up, five months later, the gains had somewhat deteriorated although they were still significant. This finding suggests the possible need for booster sessions to maintain the benefits of the intervention. In this study the results were stronger for management of drug control problems and

consequences of adverse use than they were in reversing the progression of drug use. This finding could be indicative of the need to progressively address reduction in substance abuse, first by increasing control of drug use and then by lessening actual use. Finally, the school bonding measure, in particular, has a greater number of missing respondents in the experimental group compared with the controls. However, additional analysis showed no evidence of different rates of dropout from the groups.

One limitation of Study 2 is the possibility that all youths at high risk for suicide may not have been included in the intervention. The first stage of selection focused on criteria related to school failure, such as academic performance and attendance. Suicidal youths who were good students and did nothing to identify themselves for referral into the program would not have made the initial cut to gain entry to the program. Another limitation, which may account for the study's results, was that once a youth was selected for the experimental group, he or she could decide whether to enroll in one or two semesters of the PGC, thus causing a potential selection bias for PGC2 participants. Given the lower level of gains for this group, one could surmise that those youths most needing these services self-selected for the two-semester intervention, whereas youths who felt they had made lasting gains may have been less likely to enroll in a second semester.

### Meaning for Practitioners

Both of these studies support the use of a targeted intervention for addressing a number of related risk and protective

factors and program outcomes. This program focused on at-risk youths who are beyond primary prevention (i.e., already exhibiting symptoms of problem behaviors) and are often overlooked by schools. While comprehensive prevention programs may help most students, the segment of students in these studies may require more intensive efforts. Once these students drop out of school, they most likely are no longer included in school-based general prevention programs. Because of the known overlap between potential school dropout and suicidal behaviors, many youths at potentially high risk for suicide could be identified in conjunction with identifying youths at high risk for dropping out.

The studies summarized here paid a great deal of attention to helping at-risk youths develop prosocial bonds to other youths, teachers, and the school. Bonding may be a particularly important protective factor with these youths. The results for the suicide-focused study are especially intriguing, since the youths in the "control" condition (those who received the in-depth assessment, who were assigned a case manager, and whose parents were notified) achieved results that were as positive as those of youths who took the Positive Growth Class. All three of these activities offered an opportunity for bonding. Whether bonding was the essential ingredient that caused these students to achieve gains as great as those of their at-risk peers who enrolled in the intervention courses remains to be studied.

With the ever-expanding call for programs to address youths in a holistic fashion, multifocus programs such as this one

provide a direction for practitioners to pursue. If the goal is to address the comprehensive needs of youths across both risk and protective factors, then programs such as Reconnecting At-Risk Youth could be an effective way to promote positive change in those youths who most need it. The program is also in line with the positive youth development approach covered in *Getting Results*, Update 1. The results of Study 2 also suggest that there may be opportunities for an even briefer intervention that uses assessment tools for targeting suicide risk.

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## The Importance of Multiple Components in Prevention Programs

Commentary by Cheryl L. Perry, Ph.D.

The research reviewed in this update underscores the need for multiple well-designed and evaluated complementary program components to achieve the most effective prevention of drug use. Multiple components are (1) classroom curricula; (2) peer leadership opportunities; (3) parent education and involvement; (4) use of mass media; (5) community organizing; and (6) subgroup targeting (Perry 1999). The use of multiple components is supported by the research on why young people use drugs and on which methods have been shown to prevent or minimize use. The questions that emerge, and as yet remain unanswered, concern the most effective mix of program components for a given community or target problem.

Perhaps one of the easiest ways to envision why multiple components are needed in prevention programs is to think of a set of concentric circles. The adolescent is in the center, and each layer represents a circle of influence in his or her life. Those closest to the adolescent—parents, best friends, family members—form the first layer of influence. The next layer shows such influences as those from peers, school personnel, neighbors, or church members. A more remote layer of influences lists societal leaders, media and advertising, and community policies and practices. All these circles of influence can affect adolescent behavior, with those personally closest to the adolescent having a more potent influence, but those more distant also provide powerful behavioral influences, especially if they are

pervasive or omnipresent (Perry & Jessor 1985). The optimal prevention program would deal with all these influences so that all the circles of influence would provide consistent and compelling messages to young people. To do so would obviously require more than just a classroom curriculum, parent education program, or policy changes alone—thus the need for multiple well-designed and evaluated complementary program components (Perry 1999).

A second way to consider why multiple components are needed is to review some of the risk and protective factors most predictive of adolescent behavior and the actions needed to change those factors. For example, there is general agreement that changes in norms, in how young people perceive what is appropriate behavior, may be needed to change drug use (Baranowski, Perry & Parcel 1997). Yet in a recent study on adolescent alcohol use, researchers found that community-level, rather than strictly individual-level norms (which consisted of data aggregated at the community level from students, parents, school personnel, and community leaders) accounted for 33 percent to 38 percent of the variance in 8th grade students' alcohol use (Roski et al. 1997). This finding suggests that normative change may require prevention efforts not only within schools or within homes but also within the community at large. A similar argument might be made about opportunities that

young people have to engage in health-enhancing (or health-compromising) behavior. Many of these opportunities are found outside the school or home, such as safe, supervised activities after school and on weekends or easy access to cigarettes from gas stations and small grocery stores. Even exposure to cigarette advertising has been shown to influence young people's susceptibility to smoking. This finding prompts questions concerning where and how frequently such advertisements should be placed so that young people can see them (Pucci & Seigel 1999).

The research studies reviewed in this update support the concept that multiple-component prevention programs appear to be more effective than are single-component programs. The Seattle Social Development Project programs included classroom curricula, parent education, and teacher in-service education to increase positive social bonding between children and adults during the elementary school years (Hawkins et al. 1999). The project is particularly important since it demonstrates that offering these programs in preadolescence, over multiple years, can have lasting effects at least to age 18, most notably on student achievement, sexual behavior, and violence. However, the project did not affect drug use behavior. This finding suggests that the elementary school program should be more potent, that additional components are needed, or that both elements are required. These components might include drug use prevention programs and policies in grades 7 through 12, when young people are dealing with the multiple close and remote influences to use or not to use drugs.

Within classroom-based programs, there may be ways to enhance program

outcomes. The first would include a focus by teachers on approaches that have proven to enhance effectiveness, as outlined in the Hansen and McNeal article (1999). The recognition that many teachers do not use or have an understanding of these approaches is fundamental to beginning to build better classroom prevention programs. Second, classroom programs may be enhanced by having trained peer leaders involved in implementation. Black, Tobler, and Sciacca (1998) found that involving peers in face-to-face communication about issues of drug use as a part of an interactive program was significantly more powerful than having a didactic program taught by classroom teachers or other adults. The authors describe two studies in which a peer-led prevention program was compared with the same program taught by teachers. One of the studies, for example, evaluated the Life Skills Training program and found significantly lower monthly use of cigarettes and marijuana when the program was taught by peers compared with the results for programs taught by teachers (Botvin et al. 1984). Still, in Life Skills Training, peer leaders generally do not teach the program, most likely because of logistical concerns, such as the need for peer leader training. Thus, it might be important to enhance prevention programs by considering how barriers to implementing new components can be addressed, such as by paying someone to be the peer leader specialist in the school and by providing recognition and support for that position.

Project Northland was designed at its inception as a multiple-component, community-wide effort to reduce adolescent alcohol use (Perry et al. 1993). The project has had two phases, both

undertaken with the same group of adolescents in 28 communities in rural northeastern Minnesota. During the first phase, when the adolescents were in the 6th through 8th grades, Project Northland implemented school curricula, parent education and involvement, peer leadership, and community task forces during each of the three program years. During each year a theme and motif related to young adolescent alcohol use tied together the multiple components. At the end of the 8th grade, students in the intervention communities were drinking significantly less than those in the reference communities (Perry et al. 1996). In addition, among those in the intervention communities who were nondrinkers when the program began in 1991, cigarette and marijuana use was also significantly less. Project Northland was the most successful in its first phase because mediating variables for drinking (e.g., peer norms, peer role models, functional meanings, parent-child communication) were changed; those changes led to the outcomes in alcohol use (Komro et al. 2001).

During the second phase, when the adolescents were in the 11th and 12th grades, Project Northland implemented (1) a classroom curriculum called "Class Action"; (2) parent education with the use of postcards; (3) a mass media campaign using print materials and a "Don't Provide!" slogan; (4) youth development through peer action teams outside school; and (5) community organizing to reduce access to alcohol among high school students (Perry et al. 2000). These five components were primarily aimed at reducing the availability of alcohol to teens by making alcohol more difficult to obtain, by educating parents and young adults about the liabilities of

providing alcohol to teens, and by implementing alternative drug-free activities chosen by teens. The implementation of these components and the detailed process evaluation of that implementation are the subjects of the article in this report (Perry et al. 2000). Forthcoming reports indicate that among high school students in the intervention communities, phase two of Project Northland was successful in reducing the usual increase in alcohol use and binge drinking and that this reduction was due to changes in parent and community norms. Clearly, the multiple components implemented in Project Northland were necessary to achieve positive results. What is not yet clear is which components of phase two were the most efficacious and whether implementing these strategies in the 9th and 10th grades would have yielded better long-term outcomes.

The final articles reviewed for this update provide a compelling argument for implementing intensive programs for high-risk youths. Students who are at risk of dropping out of school are also at risk of suicide and a variety of health-compromising behaviors, such as drug use. The intervention was using a regularly scheduled school course, the Personal Growth Class, that dealt with such issues as group support, development of friendship, positive teacher-student relationships through specific units on enhancement of self-esteem, decision making, personal control, and interpersonal communication. The interventions yielded positive outcomes on a variety of psychosocial outcomes, such as academic achievement, drug control, self-esteem, peer bonding, and personal control (Eggert et al. 1994; Eggert et al. 1995). These outcomes are particularly noteworthy since the youths

were at very high risk and, therefore, a group that is often unaffected by more universal prevention programs. The article suggests that addressing high-risk youths in a prevention program will require lengthy and intensive intervention, such as the Personal Growth Class, but this commitment is likely to yield positive results.

There are many practical considerations in developing a multiple-component prevention program, once there is general agreement that such an approach is warranted. First, the program components need to be complementary. In Project Northland, this need has been fulfilled by deliberately linking the multiple components to the intervention model so that each component is “justified” if it can be shown to be a powerful force in modifying a risk or a protective factor. The program designers have also linked the components by using a theme or motif for a given time period. For example, in the 7th grade programs for Project Northland, the theme was peer influence, and the motif was “amazing alternatives.” The peer-led classroom curriculum, called “Amazing Alternatives!” focused on influences on alcohol use; ways to resist those influences; and alternatives, such as having fun or relaxing, that may serve the purpose of alcohol use. The parent involvement component included an Amazing Alternatives! Awesome Autumn Party, which modeled for parents and their 7th grade students how to have a fun night without the use of drugs or alcohol. Parent education was provided through the “Amazing Alternatives Home Program,” a set of booklets sent to parents to help them learn skills, such as specific communication skills, to deal with forces influencing 7th grade students to drink. A peer partici-

pation program was initiated in all the schools so that students could learn how to create fun for their peers during after-school and weekend social activities. Finally, the community task forces focused on providing a range of supervised activities for middle school and junior high school students so that the number of true alternatives increased in each community. Through the use of multiple components, what was being learned in the classroom about creating alternatives was also being mirrored in the outside social environment of these young people.

A second consideration is how to “build” a multicomponent program. Where does the prevention practitioner begin? After identifying the major predictive factors to modify in the program, how does the practitioner identify the most potent program components? One task is to identify the mediating variables that will be the basis for the entire prevention program. For example, Hawkins et al. (1999) aimed to increase social bonding in the Seattle Social Development Project and then developed an intervention with children, parents, and teachers to increase skills to promote positive bonding. A second task is to build the program in increments. For example, during the first phase of Project Northland, the program planners developed and implemented the program consecutively for each year, with an entire year devoted to the development of a multicomponent program for each grade level. Within the programs for each grade level, the classroom curriculum was the centerpiece, and the other components were developed to complement it. In phase two of Project Northland, community organizing was the centerpiece, and the other four components

were complementary, all with the aim of reducing the availability of alcohol for high school students. In these ways, the goal of creating a multiple-component program was met by deciding on the centerpiece program and then developing the other programs to be both supplementary and complementary to that centerpiece program.

A final consideration is that multiple-component programs be evaluated to assess the contribution of each component. This evaluation can be done using large factorial research designs, for example, by comparing classroom programs alone with classroom and parent programs, with classroom and parent and peer programs, and with controls. These designs in community research are generally not feasible to implement because they involve large numbers of schools and communities and are costly and unwieldy to manage. However, evaluation can also be accomplished by documenting how well each component was implemented and what the reactions were to the program component. A particular component that was not well received or fully implemented is unlikely to have made a major contribution to positive outcomes. Finally, evaluation can include measures of the mediating variables to assess which changes in these variables lead to the observed outcomes. These findings can then be linked to the prevention program components that emphasized these variables.

Clearly, both theoretical and practical evidence shows that multiple-component programs can be efficacious. This statement does not mean that all the program components are available and ready to implement. Much more research is needed on community-based prevention strategies,

particularly on those that focus on parental involvement, peer leadership, policy changes, and programs for high-risk youths. Few successful prevention programs exist at the elementary and high school levels. As more research is being undertaken, practitioners in prevention programs are urged to begin building multicomponent prevention programs that consider the needs of their communities and adopt successful practices from previously evaluated programs.

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## Chapter 4

# Prevention and Education Reform



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**CHAPTER 4**


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# Prevention and Education Reform

This final chapter shifts the focus from prevention to school reform. The research article in this chapter is not an evaluation of a program, but a discussion of a model for developing a “comprehensive continuum of interventions” to address barriers to

development and learning. Patrick Aaby summarizes this article and extends its ideas in a commentary to argue that education reform must be about more than raising test scores.

*Table 3*

## Summary of Research in Chapter 4

Title of Article	Description	Outcomes/Program Effects	Importance	Page
<p>Moving prevention from the fringes into the fabric of school improvement.</p> <p>Adelman, H.S., &amp; Taylor, L. (2000). <i>Journal of Educational and Psychological Consultation</i>, 11(1), 7-36.</p>	<p>The article establishes a framework for integrating prevention with efforts to improve student performance.</p>	<p>Not applicable</p>	<p>The article provides an overview of research linking education reform to prevention. Suggestions are restructuring of administrative roles, retraining at all levels, and reaching out to key community members.</p>	<p>60</p>

# Moving Prevention from the Fringes into the Fabric of School Improvement

Summary by Patrick Aaby, Ph.D.

“Moving Prevention from the Fringes into the Fabric of School Improvement” is neither an evaluation of a prevention program nor a research study on reducing ATOD use. It is instead a theoretical paper that argues for establishing prevention and intervention efforts as an integral part of all efforts to improve schools and students’ academic performance. It also proposes a rationale and a model for achieving this integration.

### Importance of the Study

This article is thought-provoking for policymakers, school administrators, teachers, and school staff because it proposes a model for integrating a continuum of prevention efforts and systems into the mainstream of school improvement. It also expands the accountability for academic success beyond the schools’ responsibility.

### Methods

The focus of the various models for education reform that have been developed to increase students’ academic performance has primarily been on instructional content and practices, governance, and resource management. This focus overlooks the barriers to teaching and learning, such as a lack of food, clothing, shelter, and safety; substance abuse; violence; teen pregnancy; and juvenile delinquency. Environmental features of the school, family, and community that do not promote students’ bonding to positive groups or individuals or provide

meaningful involvement also adversely affect academic achievement. Policymakers and community members who place academic accountability measures on schools and students without acknowledging these barriers underestimate the relationship between prevention and academic success.

Adelman and Taylor (2000) present an overview of the prevailing focus of education reform and its lack of relationship to prevention efforts. To address this shortcoming, the authors describe a research-based education reform model that frames prevention and intervention programs as supports for teaching and learning.

### Findings

Although schools are addressing risk factors within the school environment that negatively affect student learning, these efforts are fragmented, supported with inconsistent funding, and not integrated within the overall education improvement plan. Adelman and Taylor argue that the fragmented, unintegrated prevention efforts lead to slow progress toward gains in academic performance.

The authors believe that efforts associated with intervening on “barriers to learning” must not be treated as a separate agenda from a school’s instructional mission. They propose replacing the current model for school reform and restructuring, which includes only instruction, governance, and

resource management, with a model that includes an “enabling” component, which addresses barriers to learning.

Adopting a three-component model requires systemic restructuring, personnel retraining at all levels, and new mechanisms. For example, the authors recommend that a resource coordinating council be established to identify needs, map existing prevention efforts, analyze how well resources are being used to meet student needs, and plan how to enhance such efforts. In addition, the council would manage and enhance systems to more effectively coordinate, integrate, and strengthen interventions. These councils or teams would also play critical roles in solving system-wide problems with operations and areas of authority.

In addition, school boards should establish a committee that targets barriers to learning and supports the preceding activities. The authors cite a 1998 report from the Center for Mental Health in Schools to support this recommendation. “Most school boards do not have a standing committee that gives its full attention to the problem of how schools address barriers to learning and teaching. This is not to suggest that boards are ignoring such matters. Indeed, items related to these concerns appear regularly on every school board’s agenda. The problem is that each item tends to be handled in an ad hoc manner. . . . School boards should consider whether they need to restructure themselves to enhance cohesion of policy and practice” (Adelman & Taylor 2000, 23-24).

Another point emphasized in this article relates to accountability. Demands from policymakers and community members that schools alone be accountable for raising achievement test scores place unreasonable

expectations on schools. Barriers to learning that lower academic achievement often emanate from many sources outside the school. Those concerned with education reform and who demand accountability must expand their demands to include individuals and groups beyond the school. To fulfill this need, school leaders must work to help the policymakers recognize the negative impact of barriers to learning on student achievement.

### Strengths and Limitations

This article provides a succinct overview of the research that links education reform efforts to prevention and gives insights into the shortcomings of most current education reform efforts. It also provides a vision and model for integrating prevention into education reform. However, because the authors’ work has only recently received widespread recognition, the article lacks specific examples showing ways in which schools have adopted this reform model and showing increases in student achievement resulting from barriers to learning being addressed.

For example, Adelman and Taylor suggest that a restructuring of administrative roles at the site level and at the central office level is necessary. At the site level, the authors state, “The functions of this role include vision building and strategic planning, implementation, and evaluation; and ensuring its integration with the instructional and management components. . . . At the central office level, leadership must focus on supporting school- and cluster-level activity” (ibid., 22). The vision and proposal are logical, but historically, there has not been a central office administrator who has

had the time or expertise to support this type of function. However, as the authors point out, “Such a leader is needed to (1) evolve the district-wide vision and strategic planning for preventing and ameliorating problems; (2) ensure coordination and integration of enabling activity among groups of schools and system wide; (3) establish linkages and integrated collaboration among system-wide programs and with those operated by community, city, and county agencies; and (4) ensure integration with instructional and management components” (ibid., 23).

### Meaning for Practitioners

This article offers educators a strong rationale for creating new policies, administrative roles, and configurations for making prevention integral to teaching and learning. Although based mostly on theory and without any concrete examples of success, this article does give broad-brush suggestions for accomplishing this integration. Just as policies and practices are adjusted to address more effectively the barriers to learning, so can a huge need for retraining at all levels be anticipated. While many current jobs and functions will continue, many others will change or disappear. The authors note that, “Recent work demonstrates the value of redeploying and training a cadre of pupil service personnel as change agents in moving

schools toward better approaches for addressing barriers to learning” (ibid., 25). Further, the authors state, “There is growing interest in identifying common skills among education support professionals so they can cover an overlapping range of intervention activity and help to fully integrate education supports into the fabric of daily school reform efforts” (ibid.).

If school leaders proactively work with policymakers and key community members (parents, business and labor leaders, law enforcement officials, clergy, media, neighborhood and minority leaders, and so forth), they can help them recognize and understand the various sources of barriers to learning. Policymakers and community leaders—in partnership with the schools—can then act to expand student accountability measures beyond the schools. Over time, more groups and individuals may take responsibility for the well-being of children, and schools will have a more realistic set of expectations on which to act.

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## Weaving the Fabric of Education Reform to Cover More Than Schools

Commentary by Patrick Aaby, Ph.D.

It seems obvious that a child who comes to school hungry, afraid, physically or emotionally abused or under the influence of alcohol or other drugs is not in the best condition to learn. Are educators doing right by young people by offering sporadic or piecemeal programs to address these issues? Is student progress assessed accurately by focusing only on how well students score on standardized tests? Are higher test scores all that educators want for students? And does the responsibility for raising academic achievement and keeping students off drugs and out of trouble belong solely to schools?

These are compelling questions to consider since students, teachers, support staff, and school administrators are under intense pressure to raise academic performance. As a society, we may be using students and teachers as scapegoats for declining student performance by withholding funds for education and imposing unrealistic and overly ambitious accountability measures. Clearly, schools and students need to improve their performance, and accountability is necessary. However, multiple conditions exist outside the realm of the schools that can have an impact on learning, as Adelman and Taylor's article (2000) points out. How well do school improvement plans respond to these conditions? If supporting healthy, achieving students is the goal, how well do school improvement plans fulfill this need? Has accountability been broadened to reflect

this goal? Are education improvement strategies really focused on what is best for the students? What are the goals that students and schools should achieve? Just how responsive are school improvement plans for reaching those goals?

In their description of resiliency, Jeanne Gibbs and Sherrin Bennett (1990) have done an excellent job in capturing the essence of the skills that students need to acquire. In their prevention training guide for communities, *Together We Can*, Gibbs and Bennett say that the resilient child:

- Is effective in work, play, and relationships
- Has healthy expectancies and a positive outlook
- Has self-esteem and an internal locus of control
- Is self-disciplined
- Has critical-thinking and problem-solving skills
- Enjoys a sense of humor

Do prevailing school improvement plans lead toward developing resilient children who are ready to learn? And if not, why not?

Acclaimed business adviser and troubleshooter Peter Drucker, in *The Effective Executive* (1985), advises businesses on how to address problems, increase performance, and achieve desired goals. He appeals to business leaders to identify the basic core,

or origins, of their problems. Not doing this procedure misleads and distracts businesses from effectively meeting their goals. Band-aid approaches, as Drucker would call them, are effective only at covering superficial problems and ultimately lead to business failure. The problems associated with low academic performance are much deeper than superficial wounds; they include barriers to learning, such as hunger or poor nutrition, drug use, or fear of violence. Schools, parents, community members, and policymakers have a critical need to uncover the roots of the problem in their community and to work together to develop an education reform or a school improvement plan that addresses those root causes.

It is interesting to examine school district mission statements and goals for students nationwide that have been developed in partnership with parents and the community. Sadly, too many education reform plans focus only on raising test scores. These “education reform efforts” may be putting students at an even greater risk of failure because those efforts do not address the barriers to learning. In addition, many veteran teachers say that “teaching to the test” has taken the fun, creativity, and joy out of teaching and learning. Because educators have all but eliminated the concept of offering well-rounded education programs, they have minimized the potential for students to become bonded to diverse, positive influences.

In too many schools and communities that focus on test scores, the passion in students as they learn new things appears to be fading and is being replaced with cynicism, depression, and despair. When students are

cynical or depressed and do not have positive bonds with school, increases occur in drug abuse, school dropouts, and violence. The goal of developing resilient students has taken a detour or been lost.

A piece read by Kelly Morrison at the 1995 Washington State PTA Legislative Assembly titled “Other People’s Children,” states:

On any given day you can pick up a newspaper or turn on the TV news and read or hear about someone who is making a difference. It could be a doctor who has performed a life-saving surgery or a judge making a precedent-setting decision. It could be a teacher touching the lives of students or a person willing to help at the scene of an accident. It could also be a man who has chosen to rape or murder, or it could be someone who has abused their children, or someone selling drugs to kids.

All of these people are life changers. All of these people are also something else . . . they are somebody else’s kids. I submit that we must care for other people’s kids because the lives of our own children, or grandchildren, will be affected by contact with those other people’s kids.

If someday your son needs a critical operation, someone else’s child will be the surgeon. If someday your daughter is the victim of violent crime, someone else’s child will be the criminal. If your child has to appear in court, someone else’s child will be the judge. If your child strays, it may be someone else’s child who leads him or her back.

We must care about other people’s children, and we must care for them, too. We must be willing to make a difference in their lives while they are young, because someday they will be the ones making a difference in the lives of others.

As this piece illustrates, protecting children from risk is not solely the responsibility of parents or schools, but that of everyone. The majority of the sources of risk are outside the school. In Hawkins et al. (1999), the researchers group risk and protective factors into four domains: community, family, school, and individual/peer. Adelman and Taylor (2000) point out that these risk factors are “barriers to learning” that will, if not effectively addressed, ultimately translate into lower test scores. Given the relationships of risks to learning and realizing the demands for accountability being placed on schools, the school staff, parents, and communities need to have an accurate grasp of the risks and to distribute the levels of accountability accordingly.

Getting policymakers and the general public to understand that ownership for problems and solutions belongs to the school and the community together requires significant work from school leaders, who may be scorned for being defensive and for trying to “pass the buck.” However, when people in the community are meaningfully involved in ongoing school activities and school improvement planning, they have the chance to understand the challenges that schools face and to see the high-level caring that exists within and between staff and students. Those who become involved in the school can be very effective at pointing out to their friends, neighbors, and policymakers the many influences that affect academic performance.

In addition, a variety of diagnostic tools are available to identify and define the specific

problem areas that have an impact on children and youths. These tools include student attitude and risk behavior surveys, such as California’s Healthy Kids Survey, and archival school-based data. The results from these surveys can be especially useful in the development of effective school improvement plans as schools, parents, and community members identify and address barriers to learning. As the use of prevention science has grown, so has a dramatic increase occurred in the number of diverse groups across the country that are striving to use research-based evidence to identify and address barriers that have an impact on the children and youths in their community.

Schools alone have not caused the nation’s social problems, and schools alone should not be responsible for solving them. Parents and community members need to understand this fact, embrace it, and communicate it to others. Schools need to remember to involve parents and community members in developing and implementing successful school improvement plans.

If the major goal is to do what is right for young people, education reform and school improvement plans must involve parents, community members, and most certainly policymakers. Others must also share accountability and resources. As Adelman and Taylor (2000) point out, “Because no comprehensive approach can be established without weaving together school and community resources, it is essential to develop models and policies that expand the nature and scope of school reform” (ibid., 15).

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