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# Malignant Neglect: Substance Abuse and America's Schools

September 2001

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## Accompanying Statement by Joseph A. Califano, Jr., Chairman and President

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*Nine and a half million high school students--60 percent--and almost five million middle school students--30 percent--are going back to schools where drugs are used, kept and sold.*

*Substance abuse and addiction will add at least \$41 billion--10 percent--to the costs of elementary and secondary education this year, in class disruption and violence, special education and tutoring, teacher turnover, truancy, children left behind, property damage, injury and counseling.*

These are just two of the disturbing conclusions of *Malignant Neglect: Substance Abuse and America's Schools*, this back to school report of The National Center on Addiction and Substance Abuse (CASA) at Columbia University, based on six years of analysis, surveys, focus groups and field investigations.

Two overarching findings of years of CASA research have prompted this intensive examination of substance abuse and the nation's schools: an individual who gets through age 21 without smoking, using drugs or abusing alcohol is virtually certain never to do so, and next to parents, schools (the entire school environment) have the greatest influence on children.

Over the past six years, CASA has surveyed 12- to 17-year olds and their teachers, principals and parents about their attitudes towards tobacco, alcohol and illegal drugs. We have conducted focus groups of teens, parents, teachers and school administrators; examined a host of middle and high school programs designed to prevent student substance abuse; tested and developed a program for high risk children (CASASTART); analyzed the underlying data accumulated over several years in extensive national data sets; examined the work of hundreds of researchers reported in 1,000 articles and books; convened experts in

education, finance, budgeting and psychology; and interviewed countless individuals engaged in the middle and high school world.

Many caring individuals have wrestled with the problem of drugs in our schools, but perhaps the report's most troubling indictment is that the infestation of our schools with alcohol and drugs is due to malignant neglect of parents, teachers, administrators, communities and the students themselves.

Parents raise hell and refuse to send their kids to classrooms infested with asbestos or lice. Yet every day they ship their children off to schools riddled with illegal drugs.

Teachers hold parents accountable for their students' use of alcohol, tobacco and illegal drugs. Faced with pupils abusing substances, teachers often try to ignore them, or remove those who become disruptive from their classrooms.

Administrators look to zero-tolerance policies and brief curriculum courses to cover their bureaucratic responsibilities to prevent student substance abuse.

Parents blame schools and teachers. Teachers blame parents. School administrators point to lack of community support. Communities say teachers are lax and principals indifferent. Students blame peer pressure and lack of parental interest.

The finger pointing and denial constitute a conspiracy of silence that threatens millions of our nation's children and savages many of them for life. Parents deny that their child or their child's friends could be using drugs. School administrators have every incentive to downplay the extent of smoking, drinking and drug use on school grounds. Teachers claim their job is to teach math, reading or history, not to spot or police substance use by their pupils.

Students, especially juniors and seniors in high school, decline to report classmates who are using or dealing drugs.

Communities fail to provide sufficient out of school activities, vigorous enforcement of laws prohibiting the sale of cigarettes and alcohol to minors, and treatment for substance abusing teens.

This collective response is reminiscent of the three monkeys guarding the Shogun's stable: see no evil, hear no evil, speak no evil. For the most part, we close our eyes or look the other way; we choose not to speak up and demand that our schools be substance free. It is time for each of us to stop looking out the window and start looking in the mirror.

An aura of despair and misunderstanding leads too many Americans to look on experimentation with cigarettes, alcohol and illegal drugs as a benign rite of passage, "something the kids will get over." Quite the contrary, a high proportion of students who experiment with these drugs continue using them throughout their high school years. Among students who have *ever*:

- tried cigarettes, 85.7 percent, more than two million students, are still smoking in twelfth grade
- been drunk, 83.3 percent, more than two million students, are still getting drunk in twelfth grade
- tried marijuana, 76.4 percent, more than 1.5 million students, are still smoking pot in twelfth grade.

Every American child will face a conscious choice whether to smoke, drink or use drugs before they graduate from high school. What each chooses will be related to a host of factors, including parental and family engagement, religious and moral values, genetics, learning disabilities and psychological factors. Schools have a unique opportunity to affect two of the critical factors: availability of drugs and students' perception of risk in using them.

Students who attend schools where substances are used, kept and sold are twice as likely to smoke, drink or use illegal drugs as those who attend drug-free schools. Students who perceive

the risk of using drugs as slight are more likely to try them. The lack of perception of risk is a key reason for the explosion of Ecstasy use among our youth and why National Institute on Drug Abuse Director Alan I. Leshner, Ph.D. is trying to get Americans to appreciate the danger of brain damage from such use.

Schools shoulder primary responsibility to keep tobacco, alcohol and illegal drugs off their premises. To fulfill that responsibility, schools have tended to rely on zero-tolerance policies (some including testing) and a few hours of curricula on substance abuse.

Zero-tolerance policies mandate suspension or expulsion of any student caught smoking, drinking or using illegal drugs. Administrators who fear the consequences of admitting that they have drug problems in their school support zero tolerance policies that promptly remove students caught using substances. Such policies are a double-edged sword. They send a loud and clear no-use message. But they can encourage parents who know of drug use by a child and students who know of such use by a classmate to remain silent because of fear of expulsion from school, often allowing the child or classmate to become more dependent on the drug. Moreover, too few schools with such policies work with troubled students to get them into treatment; even fewer offer the hope of return to school to help motivate such students to enter and complete treatment.

The other instrument that schools commonly use to deal with student substance abuse is curriculum designed to provide information about the risk of drug use and to help students develop the will and skills to say no. These courses have a role, but their value is inherently limited, especially in a school where students can easily obtain drugs from a classmate and keep cigarettes and alcohol in their lockers. More than 50 percent of 15- to 17-year olds and almost a quarter of 12- to 14-year olds know someone at their schools who sells drugs.

The CASA report notes that there is little evidence that curricula in existence have had any extended impact on student smoking, drinking or

drug use because so many other factors--parental engagement, parental substance use, depression, anxiety, availability of substances, learning disabilities--are beyond the scope of these curricula. The report has suggestions to make these courses more effective--conduct them in each of the 12 years of elementary and secondary school; intensify them at transitions from lower to middle school and middle to high school; cover cigarettes and alcohol as well as illegal drugs; have individuals likely to influence kids (such as public health experts, athletes and peers) conduct them. But the report cautions against reliance on curricula as silver bullets that render parental, teacher and community involvement unnecessary.

Without the active engagement of parents, students and community members in broad efforts to prevent substance use, curriculum programs alone are little more than "feel good" Band-Aids on the problem of student substance use and abuse.

Our collective failure to take advantage of the full range of opportunities to prevent and reduce substance abuse in our schools and among our students is nothing short of neglect. Any parent, fellow student, teacher, principal, administrator, coach, secretary, counselor, nurse, bus driver or other school staff member who averts his or her eyes from a student suspected of using or abusing tobacco, alcohol or drugs is neglecting that child. Whether borne of despair, complacency, frustration or disregard, this neglect is not benign. It is a malignant neglect compromising the lives and futures of our children and metastasizing steadily and surely to younger children.

Tobacco, alcohol and illicit drugs in schools are fueled by neglect when parents fail to be actively engaged in their child's life; when teachers and principals fail to ensure that drugs are not kept, used or sold on their premises; when communities fail to become active partners in the fight against youth substance use; when students fail to help classmates. This nation has a massive and pervasive problem of drugs in our middle and high schools and we must muster a massive and pervasive response to



provide a drug-free school environment for our children.

This report continues CASA's ongoing analysis of the impact of substance abuse on America's systems and populations. We wish to thank the many school administrators and teachers, parents and students who participated in CASA's focus groups and shared their ideas about how substance use and abuse affect them and their schools and their ideas for improvement and to the numerous individuals we interviewed in preparing this report. We also are grateful to the group of experts who participated as part of CASA's analysis of the impact of substance abuse on the costs of education.

Susan E. Foster, M.S.W., CASA's Vice President and Director of Policy Research and Analysis directed this extensive effort. Linda Richter, Ph.D., senior research associate, was the principal researcher. Other CASA staff who contributed to the research are: Michele Montavon, Ed.D., program associate; Larry Murray, M.S.W., CASA Fellow; and Paula Perlmutter, M.P.H, research associate. David Man, Ph.D., CASA's librarian, Ivy Truong, library research associate, and Barbara Kurzweil, library research specialist, were a big help. Jane Carlson, as usual, handled the administrative chores with efficiency and good spirit.

For the financial support that made this undertaking possible, the Board of Directors of CASA and our staff of professionals extend our appreciation to the Conrad N. Hilton Foundation, Primerica Financial Services and The Atlantic Philanthropies. The Conrad N. Hilton Foundation has long been at the forefront in seeking the most effective way for schools to prevent and reduce student substance use, including financing the development of Project ALERT and its evaluation. As Hilton learned that the initial benefits of the program were not holding over time, the Foundation has invested in this research to discover improved and new interventions and is testing an extension of the program in South Dakota. The persistence of the Hilton Foundation in working on this

problem is a rare example of philanthropy staying the course on a difficult problem.

While many individuals and institutions contributed to this effort, the findings and opinions expressed herein are the sole responsibility of CASA.



# Chapter I

## Introduction and Executive Summary

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For at least 9.5 million high school students (60 percent) and almost five million middle school students (30 percent), back to school means returning to places where illegal drugs are used, kept and sold. For six consecutive years, 12- to 17-year olds have reported that drugs are the number one problem they face. Each year substance abuse costs our schools at least \$41 billion dollars in truancy, special education and disciplinary programs, disruption, teacher turnover and property damage.

As drugs and alcohol have infested our schools and threatened our children and their ability to learn and develop their talents, too many Americans--parents, teachers, school administrators and students themselves--have looked the other way, hoping that a curriculum program or zero-tolerance policy would take care of the problem, or that in any case experimentation with drugs was a relatively benign right of passage.

This malignant neglect has created an environment where every child in America will be required to make a conscious choice whether to use drugs before graduating from high school, in large measure because drugs will be available--and offered--to them at the schools they attend.

This CASA report is the first comprehensive analysis of all available data on substance use in our schools and among our students. It is designed to clarify how tobacco, alcohol and illicit drug use affects schools and to suggest what it will take to make our schools and children substance free.

For six years, CASA has been probing the attitudes of teens and those adults who most influence them through its Annual Teen Surveys and numerous focus groups. This report draws on data from those surveys in which teens, parents, teachers and principals from across the nation

have been interviewed about their attitudes, beliefs and behaviors.

Over the past six years, CASA has conducted almost 100 focus groups with students, teachers, parents and school personnel involved in public, private and parochial schools across the country.\*

We have analyzed the underlying data accumulated over several years from extensive national data sets that contain information about youth substance use.

CASA convened a panel of experts in education finance, reporting and budgeting to help estimate costs of substance abuse to schools.

CASA examined school-based programs designed to prevent and treat substance abuse or deal with its consequences and consulted scores of school officials to understand how these programs work and how substance abuse affects schools.

Finally, we conducted an extensive review of the work of hundreds of researchers reported in 1,000 articles and publications concerning substance abuse and education.

## Key Findings

- More than half of all teens and 60 percent of high school teens--9.5 million high school students and almost five million middle school students--report that drugs are used, kept or sold at their schools.
- CASA estimates conservatively that this country spends at least \$41 billion each year coping with the problem of substance abuse in our schools--10 percent of federal, state, local and private spending on elementary and secondary education.
- Students who attend schools where substances are used, kept and sold are nearly three times

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\* CASA conducted almost 100 focus groups in schools, school district offices and communities in the following 11 states: California, Connecticut, Florida, Kansas, Louisiana, Maryland, Missouri, New Jersey, New York, Virginia and Washington.

more likely to smoke, drink or use illicit drugs as students whose schools are substance free.

- Illegal drug use is three times likelier to be found in schools where students smoke and drink on school grounds.
- By the time students complete high school, 70 percent (11.1 million) have smoked cigarettes, 81 percent (12.8 million) have drunk alcohol, 47 percent (7.4 million) have used marijuana and 24 percent (3.8 million) have used another illicit drug. Each year, there are 13.2 million incidents where a 12- to 17-year old tries tobacco, alcohol, marijuana, Ecstasy or some other illicit drug.
- Relatively few students who experiment with a substance discontinue its use. Among students who have ever tried cigarettes, 85.7 percent (2.1 million) are still smoking in the twelfth grade. Of those who have ever been drunk, 83.3 percent (2.1 million) are still getting drunk in the twelfth grade. Of those who have ever tried marijuana, 76.4 percent (1.4 million) are still using it in the twelfth grade.
- Efforts to achieve the National Goal of drug-free schools have failed, primarily for two reasons. The primary prevention efforts of schools--curricular programs--can target only a few of the many risk factors in a child's life. No single curriculum--however well-designed and implemented--can ever be sufficient to address the array of personal, genetic, psychological, family and social risk factors of teen substance use. Second, parents, schools, communities, students and governments have failed to step up to the plate in a concerted effort to prevent and reduce substance abuse. Programs abound but few are based on sound evidence of effectiveness and work in concert with others to reinforce their positive effects.
- Zero-tolerance policies and drug testing in schools may help identify students in trouble, but often are used merely to identify children for expulsion.

## Neglect Turns Malignant

Our neglect to prevent and treat the problem of substance abuse among students has profound and destructive implications:

- The more a student uses alcohol, marijuana and other illicit drugs, the lower his grade point average is likely to be. Alcohol-dependent youth fare worse on language and attention tests than nondependent youths. Heavy and binge drinkers between the ages of 12 and 17 are significantly more likely than nondrinkers to say that their school work is poor (49.2 percent for heavy drinkers, 44.7 percent for binge drinkers vs. 27.5 percent for nondrinkers) and more than four times likelier to say they cut classes or skip school.
- Because their brains are still developing, teens who drink to excess may be destroying greater mental capacity than older drinkers; at a level of three drinks, younger drinkers demonstrate performance impairments 25 percent greater than older drinkers.
- High school students who use alcohol or other drugs frequently are up to five times more likely than other students to drop out of school. Students who use marijuana before the age of 15 are three times likelier to drop out of school before age 16 and twice as likely to be frequent truants. Adolescents who use marijuana weekly are almost six times likelier to cut class or skip school as those who do not (60 percent vs. 11 percent).
- Adolescents who smoke have poorer perceptions of their own health and more health-related hospital visits than those who do not smoke, and teen smoking is linked to development of depression and anxiety disorders. These physical and mental health consequences of smoking prevent students from functioning optimally in school and increase the risk for missed days.
- Student substance use, particularly heavy or frequent use, is associated with increased levels of delinquent behavior. Students

reporting drug selling and early drug use are far likelier to engage in violent behavior.

- The earlier a child smokes, drinks or uses drugs, the greater the likelihood of dependence on those substances and of academic failure and brain damage.

## Key Factors Linked to Substance Use

By the time a teen graduates from high school, he will be faced with a conscious decision of whether or not to use tobacco, alcohol or other drugs. Each student's choice is related largely to the interplay of two factors:

- *Availability*: The more available tobacco, alcohol and drugs, the more likely students are to use them. For example, among youth who say that it is fairly or very easy to obtain marijuana, 12.9 percent are current users; among those who say that it is difficult to obtain marijuana, only 1.5 percent report current use.
- *Perception of Risk*: Students are more likely to smoke, drink or use drugs when they believe that the harm associated with use is low. For example, teens who believe there is no risk or only a slight risk of harm in smoking marijuana once a month are six times likelier to be current marijuana users than teens who believe there is a moderate or great risk of harm (18.5 percent vs. 3.1 percent).

## Responsibility Rests on Many Doorsteps

### *Parents' Substance Use Handicaps Children*

Prenatal exposure to tobacco, alcohol and illicit drugs can produce changes in the brain of the developing fetus leaving a child with mild to severe cognitive deficits, and increasing the risk of behavioral and conduct disorders such as impulsive behavior and ADHD. Prenatal exposure to these substances has been linked to lower IQ, impaired verbal and math skills and problems with attention and learning.

Children who grow up in a home where parents abuse substances also are at risk for poor academic outcomes. Children exposed to the chaotic, stressful homes of substance abusers are likelier to have lower grades and more suspensions, disciplinary referrals and grade repetitions than other children. Children of alcoholics are at higher risk of alcohol abuse and addiction.

### ***Many Administrators and Teachers Do Not Recognize the Magnitude of the Problem or Risk of Drug Use***

Remarkable differences exist between students' and school personnel's perceptions of student drug use. When asked if their school grounds were drug free, 11 percent of principals and 35 percent of teachers said that they were not, compared to 66 percent of students. While only five percent of principals report that students drink on school grounds, 33 percent of students say that drinking occurs at school. Remarkably, half of all high school teachers believe that a student who uses marijuana every weekend can still do well in school compared with 48 percent of principals and 23 percent of students.

Substance abuse by school staff compromises students' education and contributes to the unhealthy messages conveyed to students about substance use. Substance-abusing employees use three times as many sick days as nonusers, are absent from work three weeks more per year than nonsubstance-abusing workers, and are fired from their jobs about 50 percent more often than other workers. Absences and turnover of school staff all take their toll on student learning.

### ***Having Friends Who Abuse Substances Increases a Student's Risk***

Students whose friends smoke cigarettes are nine times likelier to be current smokers than those whose friends do not smoke. Students whose friends drink alcohol are seven times likelier to drink. Those whose friends use illicit drugs are more than 10 times likelier to use illicit drugs than those whose friends do not. Students whose friends use alcohol or illicit drugs are more likely than those whose friends do not use alcohol or

illicit drugs to perform poorly in school--even among students who do not themselves use these substances. Peer substance use is related to student acceptance of antisocial behavior and less positive involvement in school and community activities.

### ***The Community Also Leaves Its Marks***

The classroom is not a cloister. The availability of alcohol or illicit drugs in neighborhoods, adverse economic conditions and high crime rates all increase the risk of youth substance use and consequent poor academic performance. The physical appearance of neighborhoods sends messages about community tolerance for substance use and delinquency. Students who say that there is a lot of crime in their neighborhood are more likely than those who say there is not to report that they currently smoke (17.2 percent vs. 14.5 percent), drink alcohol (19.8 percent vs. 18.6 percent), use marijuana (10.1 percent vs. seven percent) and use other illicit drugs (7.5 percent vs. 4.9 percent).

### ***Some Children Are at Higher Risk***

Some children are at greater risk for substance-related problems because of their families, their schools, their friends or their communities. Children with learning disorders, discipline problems, those who become sexually active at an early age, those suffering from depression or anxiety, those showing poor academic performance and poor coping skills are all at higher risk of substance abuse.

### ***Transition Years***

Though some students begin using substances as early as fourth grade, a large increase in the proportion of students using for the first time occurs during the transition to middle school--between fifth and sixth grades. The next significant increase in substance use occurs between middle school and the entrance to high school--between seventh and ninth grades.

## ***Mobility***

Many families move so often that their children are in the same school for short periods of time. Students who frequently move are at increased risk for smoking, drinking and using illicit drugs and, therefore, deserve special attention from parents, teachers and principals.

## **Interventions Miss the Mark**

### ***Curriculum Programs***

Schools have attempted to prevent student substance abuse through a variety of curriculum programs, some taught by teachers, others by outsiders such as local police or drug counselors. Most of these programs are designed to inform the students of the risk of substance abuse and to enhance their social and decision-making skills to resist pressure from peers and others to use drugs. By and large the success of these curriculum programs is judged on whether or not drug use has declined.

But these programs are of inherently limited value. While they may be helpful in developing the students' perception of risk and perhaps in enhancing the will and skills to say no, a few classroom hours on substance abuse is likely to be of marginal impact in the context of the other influences on student behavior. Parental conduct and engagement in their children's lives, the values and standards of behavior parents establish, the religious involvement of teens and their families, and the availability of substances at schools and in society have far more potent influence on whether students will drink, smoke and use illegal drugs.

### ***Zero-Tolerance, Testing, Locker Searches***

Across the country, schools have begun to establish and implement zero-tolerance policies, drug testing and locker searches both as a deterrent and as a means of detecting substance use. Zero-tolerance policies mandate predetermined consequences or punishments for substance possession or use--suspension, expulsion or referral to an alternative school. Eighty-eight

percent of schools impose zero-tolerance policies for drugs, 87 percent for alcohol and 79 percent for tobacco. These policies can result in increased student suspensions and expulsions from school without assuring effective counseling and treatment.

Schools employ various measures to test students for drug use or drug possession. Urine and hair testing are among the most common methods used. Testing is usually conducted only for drugs like marijuana, cocaine, heroin and amphetamines, not for alcohol--the most abused substance among youth. Testing is usually limited to athletes or students participating in other extracurricular activities.

Locker searches--including using drug-sniffing dogs to identify lockers that contain illegal drugs--also are used as a tool to keep drugs out of schools.

### ***Counseling***

Few schools are able to assure effective interventions for students already abusing substances. Only 36 percent of public schools and 14.4 percent of private schools say they offer some form of substance abuse counseling. Only 9.5 percent of the nation's public school districts employ formal Student Assistance Programs. Overall, approximately 5.7 percent of 12- to 17-year olds (approximately 1.3 million) are dependent on an illegal drug or alcohol. Only about 23 percent of them--296,000--received any form of treatment for drug or alcohol abuse, leaving a treatment gap of some one million teens.

School administrators and teachers are asking for help. A recurring theme of the focus groups that CASA conducted for this study was the frustration that school staff members feel about the difficulty and failure in addressing student substance abuse. Many school staff members are acutely aware that current efforts to prevent and intervene are not working and some even throw up their hands in despair.

## What Can Be Done?

There are no silver bullets to keep schools and students substance free and schools alone cannot be expected to solve the problem.

Parents bear primary responsibility for keeping their children drug free. School administrators, as well as teachers, bear the primary responsibility for keeping drugs, alcohol and nicotine off their grounds. Students bear a responsibility to help keep themselves, their friends and their schools drug free. Communities and governments have responsibility to keep the streets and neighborhoods drug free and to provide an environment in which children can grow up substance free. Government also carries the responsibility to provide treatment services for needy children. In this sense, all of the above are responsible for the fact that millions of our high school and middle school children are sent every day to schools where drugs are used, kept and sold.

This report is focused on schools because next to parents, the school and its entire environment--parents, teachers, coaches, principals, students--have the greatest influence on whether children will drink, smoke and use drugs.

### ***Schools Bear Primary Responsibility for Keeping Schools Substance Free***

When schools take seriously the challenge of fully engaging all students in the educational process, helping each child to find ways to succeed and helping children and their families and communities deal with the problems that get in the way, they are on the right track of both assuring academic success and of reducing substance use and abuse. Administrators, teachers and other school staff may not realize that the nature and quality of the school environment and students' attitudes toward their school probably have more of an impact on student substance use and problem behaviors than do any curriculum-based prevention programs on the market today.

School characteristics that are associated with reduced student substance use include: promoting

and supporting high levels of student attachment to school; providing clear and consistent expectations for student behavior; offering smaller school sizes; connecting students and their families to well-coordinated support services; and actively engaging parents in their children's education.

Students who feel attached or connected to their school use cigarettes, alcohol and marijuana less frequently than students who do not feel as connected. Feeling connected to school is related to the overall school environment, including positive student-staff interactions, relationships among students and a sense of student empowerment.

Students typically progress through their academic careers in relatively short stints--elementary school, middle school, high school. For any one school, the windows of opportunity are narrow for reaching out to students and preventing their initiation, experimentation, continued use and abuse of addictive substances.

## Next Steps

Making our schools substance free and preventing and reducing substance use among students is a monumental task. It will take the school--teachers, administrators and other staff--the parents, the students themselves and the community.

### ***Focus on All Substance Abuse***

CASA recommends that parents, schools and communities strive to prevent all forms of substance abuse--not just illegal drug use. Substances of abuse are related to one another not only in terms of the statistical odds that a person who uses one substance is likelier to use others as well, but also in terms of their similar biological effects on the brain and the body. Each year, new substances of abuse come into vogue and prevention messages and information about risk must be promptly delivered about each substance.

Schools, in concert with parents, students and communities, should review their current

approaches to prevention against the full range of factors directly linked to student substance use and abuse. Using this approach can help schools identify additional actions they can take themselves and areas of intervention more appropriate for collaborative efforts with families, students and communities. Table 1.1 includes a list of CASA’s proposed key interventions.

CASA also identifies specific opportunities for schools, parents, communities and government:

***Opportunities for Schools***

- Train all administrators, teachers, coaches, counselors, nurses and other school staff to spot the signs of substance abuse and know how to respond. Training should be provided through undergraduate and graduate education programs, in-service training and new staff orientation. State qualification exams should include questions about how to spot student substance abuse and what to do when faced with it.
- Provide strong no-use messages every year from preschool through the twelfth grade, tailored to the age, culture and sophistication of the child. Intensify these messages at the transitions from elementary to middle school and from middle to high school when students are at increased risk for substance use. Schools should make every effort to incorporate these messages not only into specific prevention programs, but into health and other academic curricula and school-sponsored social settings.
- Develop strong and common sense substance use policies that:
  - Prohibit the possession, sale or use of cigarettes, alcohol, illegal and abused prescription drugs on school property or at school sponsored events.
  - Identify and enforce clear consequences for noncompliance that assure continued education and access to treatment, and employ graduated sanctions for

Table 1.1 <b>Key Interventions</b>	
1.	Be a “hands-on” parent.
2.	Decrease availability of tobacco, alcohol and other drugs to students.
3.	Help students understand the harm associated with substance use.
4.	Get students actively engaged in school.
5.	Set and enforce clear and consistent substance use policies.
6.	Pay attention to students at higher risk.
7.	Pay attention to times of higher risk for students.
8.	Engage students in developing the will and skills to say no to substance use.
9.	Make treatment available to all students who need it.
10.	Give kids with substance abuse problems help and a chance and a reason to change.

noncompliance with a treatment plan or repeat infractions of school policies.

- If school administrators determine that a student has been using tobacco, alcohol or other illicit drugs, the school should work with community agencies to arrange for proper assessment, referral, counseling, treatment and follow-up care.
- Schools should establish student and employee assistance programs to provide counseling for students and staff with substance abuse problems of their own or among their families and friends.
- For students who voluntarily request help with a substance abuse problem, assure access to treatment and education without penalty.
- If administrators suspect that a student or staff member is under the influence of alcohol or drugs, the school should require testing.
- If administrators suspect that a student or staff member has brought tobacco, alcohol or drugs onto school property, the school should conduct an unannounced search.



- Conduct pre-employment alcohol and drug testing for all school personnel and for-cause testing after employment.
- Improve and expand existing prevention and intervention programs:
  - Develop the capacity in each school to design and implement effective prevention and intervention efforts. Schools should develop the capacity to ensure that substance abuse prevention and intervention efforts are chosen on the basis of research-based evidence, implemented correctly, integrated into the school environment and instructional program, and evaluated for their efficacy in reducing substance use among students in the school. Schools should abandon those programs that have no proven efficacy in helping reduce student substance use and replace them with programs or elements of programs that work. Prevention program messages should be delivered by individuals who have the greatest chance of influencing youth--such as health professionals, parents and peers, as well as teachers--and who have been appropriately trained.
  - Develop programs for high-risk students. Schools should offer targeted prevention and intervention services to youth at high risk for developing substance abuse problems, including children who have learning disabilities and conduct disorders, who are failing or doing poorly in school, who have moved frequently, who are engaged with the juvenile justice system, who have parents with addiction problems, and who have co-occurring problems such as anxiety, depression and eating disorders.
- Create a school environment to:
  - Engage parents in each child's education. Teachers should communicate routinely with parents about the child's progress in school and any problems that he or she is encountering. Teachers and

administrators should provide information to parents of day and evening hours when they are available to meet with them to respond to their concerns about their children's education.

- Develop student attachment to schools. Schools should require and foster positive interactions between students and staff and cultivate a sense of student involvement and empowerment. They should create varied opportunities for student participation in academic and extra-curricular activities.
- Help students build supportive peer groups and resist negative peer pressures. Schools' curriculum programs should seek to help students provide support to each other to resist substance use and abuse and build skills to resist peer pressure.
- Encourage students to report classmates who have substance abuse problems so they can be helped and classmates who deal drugs so that appropriate action can be taken.

### *Opportunities for Parents*

- Parents should become "hands-on" parents by, for example:
  - Eating dinner with their children on most nights of the week--with the television off.
  - Making clear that they would be extremely upset if their children smoked, drank or used drugs.
  - Expecting to be and are told the truth by their children about where they are going in the evenings or on weekends.
  - Knowing where their children are after school and on weekends.
  - Imposing a curfew.

- Being very aware of their children's academic performance.
- Monitoring what their children watch on television and do on the Internet.
- Putting restrictions on the music CDs their children buy.
- Having children be responsible for regular household chores.
- Having an adult present when their children are home from school.
- Fighting for substance-free schools.

### ***Opportunities for Communities***

- Community agencies, in partnership with schools, can establish confidential hotlines where parents and students can call for advice on how to handle substance abuse concerns and get help.
- Communities can create family resource centers in cooperation with schools that provide health, education and social service resources for parents as well as students.
- Local businesses can work with schools to create before and after school programs that provide mentoring and opportunities for youth to participate in academic, artistic, cultural and recreational and work programs.
- Local governments, neighborhood organizations, parents and local businesses can work together to improve the community environment.
- Local law enforcement agencies should step up enforcement of alcohol and tobacco laws related to youth.

### ***Opportunities for Federal and State Governments***

- Fund research on the development of treatment programs designed specifically to meet the needs of youth.
- Fund additional treatment services to close the one million child treatment gap.
- Fund additional independent research and evaluation of what motivates children to use and not to use drugs.
- Strengthen and enforce laws prohibiting sales of cigarettes and alcohol products within the vicinity surrounding school boundaries.

Adopting federal legislation like the Drug Abuse Education, Prevention and Treatment Act of 2001(S304), introduced by Senators Orrin Hatch (R-UT), Mike DeWine (R-OH), Joseph Biden, Jr. (D-DE), Patrick Leahy (D-VT) and Strom Thurmond (R-SC), would help to expand needed treatment and prevention services.





## Chapter II

# Tobacco, Alcohol and Drugs in Schools: Code Red

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This fall, 9.5 million high school students and almost five million middle school students will return to schools where drugs are used, kept and sold.<sup>1</sup> By the time students reach twelfth grade, 70 percent have smoked cigarettes, 81 percent have drunk alcohol and 47 percent have used marijuana.<sup>2</sup>

Parents, teachers and policymakers too often accept facts such as these as indicators of benign rites of passage of teens to adulthood. CASA's unprecedented analysis of substance abuse and schools shows for the first time just how dangerously negligent this acceptance is. Each year, 13.2 million students (ages 12 to 17) become new users of tobacco, alcohol and drugs.<sup>3</sup> Among students who have ever tried cigarettes, been drunk or used marijuana or cocaine, the overwhelming majority are still smoking, getting drunk and using these drugs by their senior year.<sup>4</sup> More than one in 20 students ages 12 to 17 already are addicted to tobacco, alcohol, another illicit drug or all these substances.<sup>5</sup>

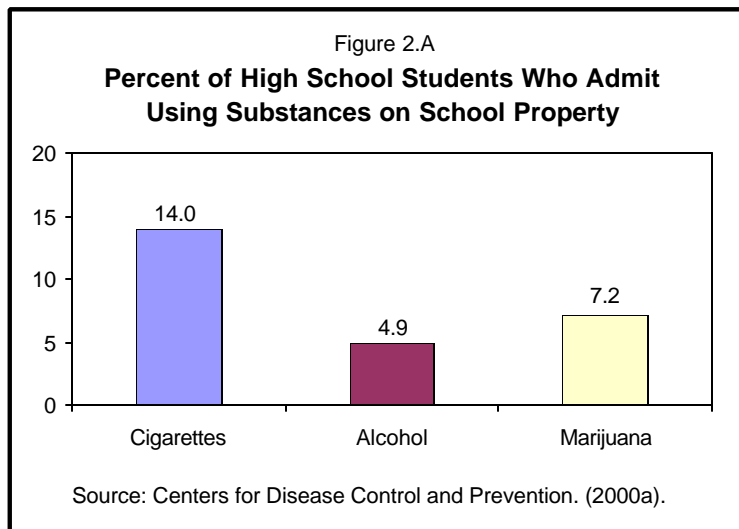
Substance use and abuse cost schools at least \$41 billion each year. Use and abuse of tobacco, alcohol and drugs have created a critical condition for both our schools and students--a code red--demanding immediate response.

### **Cigarettes, Alcohol and Drugs Used, Kept and Sold on School Property**

More than half of all teens--60 percent of high school teens and 30 percent of middle school teens--report that drugs are used, kept or sold at their schools;<sup>6</sup> more than 14 million teens--9.5 million in high school and 4.9 million in middle school--go to schools where drugs are part of the school culture. Fourteen percent of high school students admit that they smoked cigarettes, 4.9 percent admit that they used alcohol, and 7.2

percent admit that they used marijuana on school property at least once in the past 30 days.<sup>7</sup> (Figure 2.A)

attending that school are at increased risk for substance use.<sup>11</sup>



Compared to the proportion of students who report using cigarettes, alcohol or other illicit drugs at school, far larger proportions of students report that they have encountered these drugs or their use while at school. Twenty-two percent of students age 12 to 14 and 51 percent of students age 15 to 17 know a student at their school who sells drugs.<sup>8</sup>

*Over the past 10 years, 15 states have reported increases in drug availability on school grounds.<sup>12</sup>*

## Drugs In School Hike Risk for Other Students

According to CASA's 1999 teen survey, *Back to School 1999--National Survey of American Attitudes on Substance Abuse V: Teens and Their Parents*, teens attending schools where drugs are kept, used or sold are nearly three times more likely to report having smoked cigarettes and three times more likely to report having tried marijuana.<sup>9</sup> Schools where students smoke and drink on school grounds are nearly three times likelier to have illicit drugs than schools where students neither smoke nor drink on school grounds.<sup>10</sup> When drugs are a part of the school culture (i.e., a high percentage of students who use or deal drugs), the students

## Student Substance Use Alarmingly High

Despite general declines in most forms of substance use among the population as a whole, rates of smoking, drinking and other illicit drug use among students increased in the early 1990s and remain alarmingly high.<sup>13</sup> More than one-third (34.8 percent) of high school students (grades nine through 12) are current smokers.<sup>14</sup> Half of all students currently use alcohol and nearly one-third (31.5 percent) binge\* drink.<sup>15</sup> More than one-fourth (26.7 percent) of high school students are current† marijuana users.<sup>16</sup>

One in 10 (9.5 percent) have used a form of cocaine by the time they finish high school and four percent are current users of cocaine.<sup>17</sup> Another 14.6 percent have used inhalants; 4.2 percent are current users.<sup>18</sup>

Each year, there are 13.2 million incidents where a 12- to 17-year old tries tobacco, alcohol, marijuana, Ecstasy or some other illicit drug.<sup>19</sup> There are over 4.9 million new incidents of smoking, 3.3 million new incidents of alcohol use and 1.6 million new incidents of marijuana use.<sup>20</sup> There are another 3.3 million new incidents of the use of other illicit drugs such as cocaine or heroin and the misuse of prescription medications and inhalants.<sup>21</sup>

Several national surveys provide information on youth substance use. (Appendix A) Rates of youth substance use derived from these surveys can be considered conservative in that the figures provided are obtained through students reporting on their own use and, therefore, may

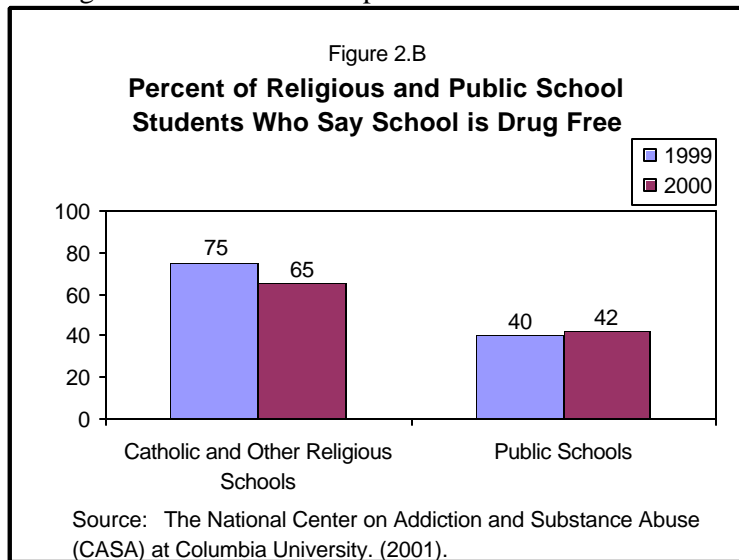
\* The most frequently cited national surveys define binge drinking as having five or more drinks in a row at least once in the past 30 days. Other research defines binge drinking as four or more drinks in a row for women and five or more drinks in a row for men.

† Current use is defined as having used the substance in the past 30 days.

underestimate actual use.<sup>22</sup> These surveys either are administered in the classroom or in the youth's home. Although respondents are told that their answers to the questions will be kept confidential, students might feel inhibited from providing honest, accurate responses regarding their substance use because of the presence of teachers, parents or other adult figures. Furthermore, the school-based surveys do not include youth who have dropped out of school, many of whom have high rates of substance use.

### Public School Students and Teachers Report Higher Rates of Substance Use

Students in public schools are more likely to report using drugs than those in private religious schools and are less likely to report that their schools are drug free.<sup>23</sup> Two-thirds (65 percent) of Catholic and other religious school students report that their school is drug free compared to 42 percent of public school students.<sup>24</sup> Unfortunately between 1999 and 2000, the percent of students in Catholic and other religious schools who reported that their school is drug free declined from 75 percent to 65



percent. (Figure 2.B)

Twice as many secondary school teachers in public schools compared to private schools\* cite alcohol use (22.5 percent vs. 11 percent) and more than three times as many teachers in public than private schools cite drug abuse as a serious problem in their school (14.7 percent vs. 3.9 percent).<sup>25</sup>

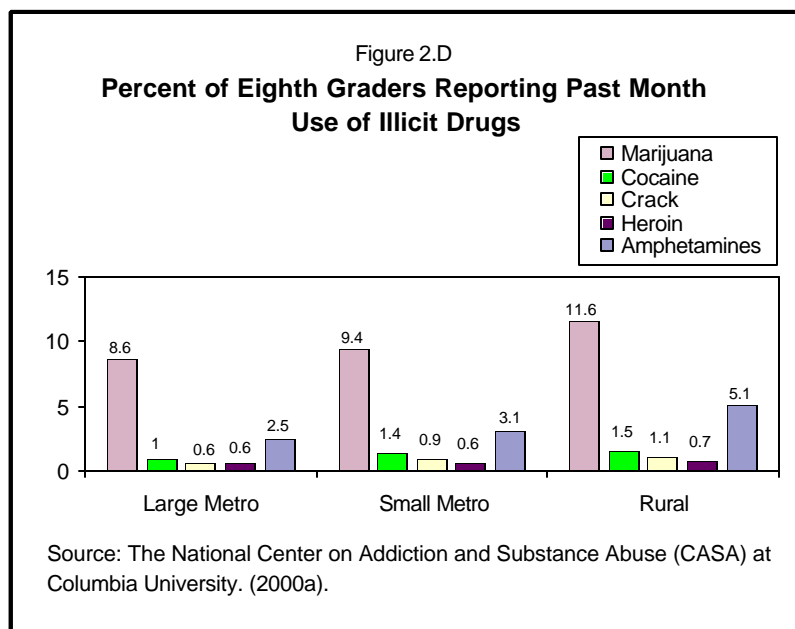
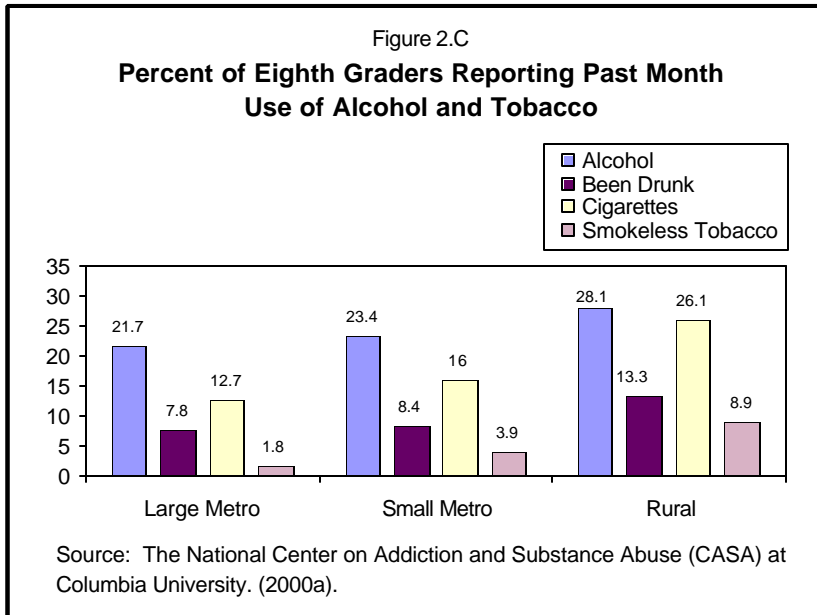
### Substance Use Higher in Rural Than Urban Schools

Students living in rural areas are more likely to use most substances than their big city counterparts.<sup>26</sup> A recent CASA report, *No Place to Hide: Substance Abuse in Mid-Size Cities and Rural America*, found that eighth graders in rural areas were more likely to have smoked marijuana, snorted cocaine and used inhalants, crack, amphetamines, tranquilizers, alcohol, cigarettes and smokeless tobacco in the past year than eighth graders in large metropolitan areas.<sup>†</sup> (Figures 2.C and 2.D)

For tenth graders, current use rates in rural areas exceed those in large metropolitan areas for cocaine, amphetamines, barbiturates, inhalants, hallucinogens, LSD, heroin, steroids, tranquilizers and tobacco--every drug except MDMA (Ecstasy) and marijuana. Among twelfth graders, current use rates in rural areas exceed those in large metropolitan areas for cocaine, amphetamines, barbiturates, inhalants, crack, tranquilizers and tobacco. Current use of marijuana, hallucinogens, LSD, MDMA, and steroids was higher in large metropolitan areas than in rural areas among twelfth graders.<sup>28</sup>

\* Including religious and nonsectarian schools.

† Rural areas are those with a population of less than 50,000, small metropolitan areas are those with a population between 50,000 and one million and large metropolitan areas are those with a population greater than one million.



is that relatively few students only experiment and then stop. Among twelfth grade students who have ever tried cigarettes in their lifetime--even once--85.7 percent (approximately 2.1 million each year) are still smoking in the twelfth grade.<sup>31</sup> Of those who had ever tried alcohol--even once--91.3 percent (approximately 2.8 million each year) are still drinking in the twelfth grade.<sup>32</sup> Of those students who had ever been drunk, 83.3 percent (approximately 2.1 million each year) are still getting drunk in the twelfth grade.<sup>33</sup> Three-quarters (76.4 percent--approximately 1.4 million each year) of twelfth graders who had tried marijuana are still using it by the twelfth grade and beyond.<sup>34</sup> Of those who have tried cocaine, 61.3 percent (approximately 203,000 each year) are still using it and of those who have tried LSD, 60.3 percent (approximately 257,000 each year) are still using it by their final year in high school.<sup>35</sup>

Younger and younger students are experimenting with addictive substances which hikes their chances for problems later on. By age 13, one-fourth (24.7 percent) of students have smoked a whole cigarette, 32.2 percent have drunk more than a few sips of alcohol and 11.3 percent of students have tried marijuana.<sup>36</sup>

## Dangerous Assumptions

Cigarettes, alcohol and other drug use are ways that many adolescents assert their independence, challenge social conventions, gain peer acceptance and--not unlike adults--cope with stress and anxiety.<sup>29</sup> Student substance use is so common that experimenting with substances is often thought of as a defining feature of adolescence or as a rite of passage.<sup>30</sup> The largely unrecognized danger of experimentation

Youth who initiate smoking at an early age are at higher risk for becoming dependent smokers, having a poor diet, experiencing more illness and hospitalization and developing lung cancer.<sup>37</sup> Individuals who report ever using cigarettes prior to the age of 15 are up to 80 times more likely to have used another illegal drug, suggesting that smoking at a young age is a strong predictor of other illegal drug use.<sup>38</sup> Individuals who begin drinking before the age of 15 are four times more likely to become alcohol

dependent than those who do not drink before age 21.<sup>39</sup> A youth who begins using marijuana before age 15 is up to seven times likelier to be using the drug later in adolescence.<sup>40</sup>

*Adolescence is a time when young people push against limits in order to define themselves...It is important that we adults provide clear limits...*<sup>43</sup>

--Administrator, De La Salle High School  
New Orleans, LA

CASACONFERENCE: *Substance Abuse in the 21<sup>st</sup> Century: Positioning the Nation for Progress*

Adults who first used drugs at a young age are more likely to become dependent on drugs than adults who initiated use at a later age.<sup>41</sup> Nine percent of respondents who report having first tried marijuana by age 14 were found to be dependent on an illicit drug compared to only 1.7 percent of respondents who had first tried marijuana at age 18 or older.<sup>42</sup>

In 1997, CASA established the statistical relationship between use of tobacco, alcohol and marijuana--in and of themselves--and the use of drugs such as cocaine, heroin and acid.<sup>\* 44</sup>

Among teens who report no other problem behaviors, those who drank and smoked cigarettes at least once in the previous month are 30 times likelier to smoke marijuana than those who did not; those who used cigarettes, alcohol or marijuana at least once in the previous month are almost 17 times likelier to use another drug like cocaine, heroin or LSD.<sup>45</sup>

The younger and more often a teen smokes, drinks or uses drugs, the higher the risk of progressing to substance abuse. The risk for progression to the "next stage" of substance use (e.g., from alcohol to marijuana) is dramatically increased for those who started using substances at an early age (before age 15).<sup>46</sup>

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\* Other research suggests that the commonly cited patterns of progression from licit to illicit substances apply mostly to individuals born during a certain time period (i.e., the specific age cohort of the "baby boom generation"), rather than being a reliable pattern of behavior across all generations.

Biomedical and scientific studies are beginning to unearth the reason for this strong statistical relationship between the use of alcohol, tobacco, marijuana, cocaine, heroin and other drugs.<sup>47</sup> Recent studies at universities in California, Italy and Spain reveal that tobacco, alcohol, marijuana and other illicit drugs all affect dopamine (the chemical that gives pleasure) in the brain by disrupting its normal flow and producing feelings of pleasure and reward and, over time, addiction and vulnerability to withdrawal symptoms.<sup>48</sup>

## **Substance Abuse Costs Schools Billions**

Substance use and abuse--by parents, students and staff--have a profound impact on the costs of education. For example, maternal alcohol use during pregnancy can result in increased special education costs for students with fetal alcohol syndrome. Parental substance abuse can result in programs for at-risk youth, staff-intensive compensatory education programs, after-school programs or summer school programs. Student substance use necessitates increased support and health care staff. Violence associated with substance use requires increased school costs for security personnel and equipment, insurance and workers' compensation, and repairs and replacement of vandalized or stolen materials.

Faculty substance use involves increased workforce costs and lost productivity. Smoking, drinking and drug abuse have tremendous health implications that can result in numerous sick days among school personnel. Substance-abusing employees use three times as many sick days as nonusers, are absent from work three weeks more per year than nonsubstance-abusing workers, and are fired from their jobs (thereby necessitating new hiring) about 50 percent more often than other workers.<sup>49</sup>

To take the first steps toward developing an estimate of the costs of substance abuse to the education system, CASA identified cost areas that can be linked to substance abuse. (Table 2.1)



Table 2.1

**Examples of Costs Linked to Substance Abuse**

- Special programs for children at risk
- Special education programs for those with substance related retardation or learning disabilities
- Student assistance programs
- Alcohol- and drug-related truancy
- Administration costs linked to coping with alcohol and drug problems
- Property damage and liability insurance costs driven by alcohol and drugs
- Lost productivity of staff, turnover and added costs for additional staffing
- Higher health insurance costs for substance-involved staff
- Legal expenses linked to alcohol and drugs
- Drug testing costs
- Employee assistance programs for substance abusers
- Employee training, policy and staff development to increase awareness of and cope with substance abuse
- Capital outlays for special facilities needed for substance-abusing students

estimates the costs of substance abuse to elementary and secondary education in 2000-2001 to be, conservatively, \$41 billion.

To review this approach and associated estimates of costs, CASA convened a group of experts in the area of school finance and substance abuse.\* This group also was troubled by an inability to find data to make more precise estimates, but after reviewing and refining this list of effects informally posited a range of 10 to 20 percent for the estimated impact of substance abuse on the costs of elementary and secondary education. For the purposes of this study, we have chosen the lower end of the range, 10 percent, as a conservative estimate of a substance abuse share for education spending.

To estimate total expenditures for education in 2000-2001, CASA added estimated state (\$181 billion), federal (\$28 billion), local (\$158 billion) and nongovernmental (\$39 billion)<sup>†</sup> expenditures for that time period for a total of \$406 billion.<sup>50</sup> To estimate the costs of substance abuse to schools, CASA applied the 10 percent estimated impact of substance abuse to the total of these expenditures. CASA

\* July 19, 1999 in Washington, D.C.

<sup>†</sup> Includes private school tuition and fees.



## Chapter III

### Negligence Turns Malignant

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America's goal of safe and drug-free schools has met with dismal failure. The reality is that we have accepted tobacco, alcohol and drugs as fixtures in our schools. This acceptance is malignant neglect.

Substance use interferes with all of the indicators of school success--attendance, academic performance, promotion and graduation as well as achievement on standardized tests including college entrance exams. It increases the likelihood of dropout, suspension and expulsion. Student substance use interferes with student academic performance by physically damaging areas of the brain involved in learning and memory. Students who smoke, drink or use drugs are at greater risk for failure, absenteeism, truancy and dropping out of school. Student substance use and abuse increase problem behaviors and disciplinary problems in the classroom. Students who smoke, drink or use drugs are at increased risk for a variety of mental health problems, such as depression, anxiety disorders, conduct disorders and eating disorders--all of which further interfere with a student's ability to concentrate on his or her studies and increase the likelihood of disruptive behavior.

#### **National Education Goal of Safe and Drug-Free Schools a Failure**

The movement to improve education in America was highlighted by the adoption in 1990 of the National Education Goals, a framework of eight national goals that provide clear benchmarks about where we as a nation want to be and where we fall short in educating our children.<sup>1</sup>

*Goal 7--Safe, Disciplined and Alcohol- and Drug-Free Schools--states that by the year 2000, every school in the United States will be free of drugs, violence and the unauthorized presence of*

firearms and alcohol and will offer a disciplined environment conducive to learning.

Goal 8--*Parental Participation*--highlights the need for parents to become active partners in their children's education as well as in their social and emotional development. This partnership is key to achieving the goal of drug-free schools.

To help finance education reform activities, Congress reauthorized the Elementary and Secondary Education Act (ESEA) in 1994 with the Improving America's Schools Act.<sup>3</sup> Title IV of this new law, the Safe and Drug-Free Schools and Communities Act (SDFSCA), was designed to support the goal of safe and drug-free schools. Its initiatives are aimed at preventing violence in and around schools; strengthening programs that prevent the illegal use of tobacco, alcohol and drugs; involving parents; and coordinating with related federal, state and community efforts. Funded at \$644 million for fiscal year 2001,<sup>4</sup> Title IV was designed to help teachers and administrators respond to drug use in school, create drug-, alcohol- and tobacco-free learning environments and curtail school violence.<sup>5</sup>

**SDFSCA  
Comprehensive Drug and Violence  
Prevention Program Requirements**

- Target all students and employees.
- Focus on preventing the use, possession and distribution of tobacco, alcohol and illegal drugs by students and preventing the illegal use, possession and distribution of such substances by employees.
- Focus on preventing violence and promoting school safety.
- Create a disciplined environment conducive to learning.
- Include activities to promote the involvement of parents and coordinate efforts with community groups and agencies.

A year past the year 2000 deadline and \$4.3 billion Title IV federal dollars later,<sup>6</sup> drugs still infest our nation's schools and rates of parental involvement in their children's education remain

abysmally low.<sup>7</sup> Efforts to attain Goal 7--*Safe, Disciplined and Alcohol- and Drug-Free Schools*--have failed and millions of children at schools where drugs are available are in danger of being left behind.

*As America enters the 21<sup>st</sup> Century full of hope and promise, too many of our neediest students are being left behind.<sup>2</sup>*

--President George W. Bush

## **Student Substance Use and Abuse Degrade Academic Performance**

Substance abuse during childhood and adolescence can damage young people's physical, emotional and cognitive development, hiking their chances for physical health problems, poor mental health, delayed maturation, delinquency, precocious sexual activity and violent crime.<sup>8</sup> Cigarettes, alcohol and drugs physically change the brain and body in ways that can interfere with thinking, make learning and concentration more difficult and thereby diminish academic performance. The more a student uses substances such as alcohol, marijuana, cocaine or other hard drugs, the lower his grade point average is likely to be and the more likely he is to drop out of school.<sup>9</sup> Both failure in school and the perception of failing in school are linked to substance use as are higher rates of absenteeism and truancy among elementary, middle and high school students.<sup>10</sup>

Substantial research supports the link between earlier substance use and later academic problems. In many cases, students' substance use precedes and is a risk factor for academic problems, including lower grades, higher rates of absenteeism, lower educational expectations and high dropout rates.<sup>11</sup> Poor academic performance also can propel students toward substance use.<sup>12</sup>

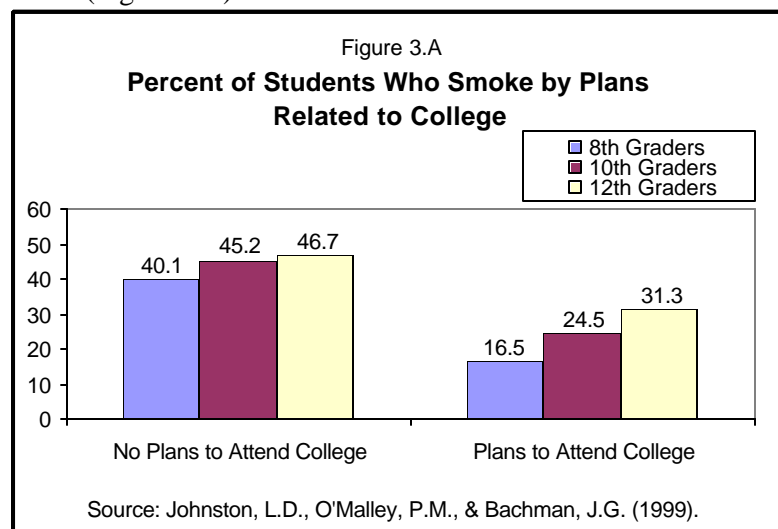
### ***Harm From Tobacco Use Starts Early***

Tobacco use can diminish the quality of academic performance.<sup>13</sup> Although it is generally acknowledged that smoking is related to serious long-term health consequences, it has short-term negative health effects as well. Adolescents who smoke report poorer perceptions of their own health and more health-related hospital visits than those who do not smoke.<sup>14</sup> Compared to nonsmokers, teens who smoke daily are more likely to report headaches, neck and shoulder pain, muscle and joint pain, stomachaches, nausea, restlessness and sleep difficulties.<sup>15</sup> Daily smokers also are nearly twice as likely to have been absent for more than one week during the school year than nonsmokers.<sup>16</sup>

Teen cigarette smoking increases the risk for mental health problems.<sup>17</sup> One study found that nondepressed teens who reported current cigarette smoking were nearly four times more likely to develop depressive symptoms a year later than nondepressed, nonsmoking teens.<sup>18</sup> Similarly, another study found that teens who were heavy cigarette smokers\* were more than five times likelier to develop generalized anxiety disorder and more than seven times likelier to develop panic disorder in early adulthood; yet teens with anxiety disorders were no more likely than those without to become heavy smokers later in life.<sup>19</sup> Withdrawal from nicotine for those who do smoke, due to limited opportunities to smoke while in school, may lead to sluggishness, distraction and an inability to concentrate.<sup>20</sup> These physical and mental health consequences of smoking prevent students from functioning optimally in their schoolwork and increase the risk for missed days of school.

National surveys indicate that students who smoke are less likely to have plans to go to college.<sup>21</sup> Eighth grade students who do not have plans to attend a four-year college are more than twice as likely to smoke cigarettes as their college bound peers (40.1 percent vs. 16.5 percent).<sup>22</sup> Among tenth graders, almost half

(45.2 percent) of those without plans to attend college smoke compared to one-quarter (24.5 percent) of those who have college plans.<sup>23</sup> College bound high-school seniors are less likely to smoke cigarettes (31.3 percent) than noncollege bound seniors (46.7 percent).<sup>24</sup> (Figure 3.A)



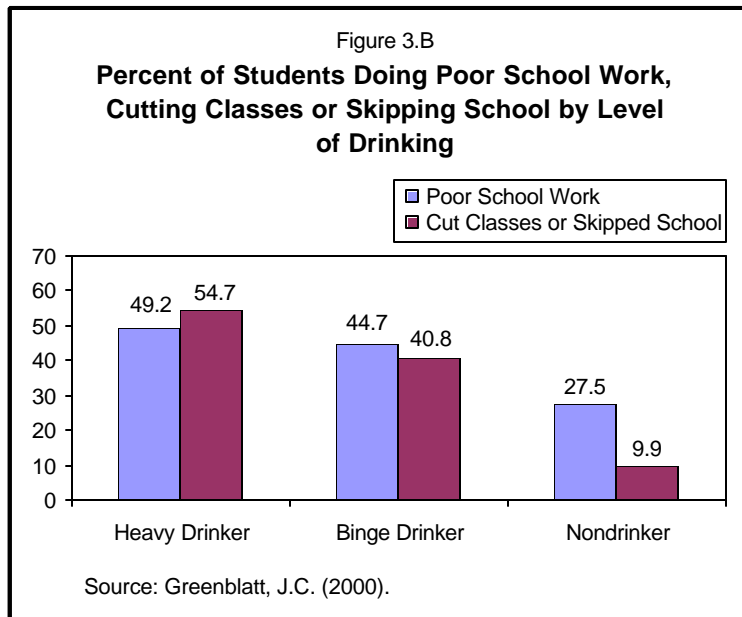
### ***Alcohol: The Number 1 Student Drug Problem***

The biggest drug problem among students is alcohol. Students who abuse alcohol are less likely to do well in school or show a commitment to school.<sup>25</sup> Heavy<sup>†</sup> and binge<sup>‡</sup> drinkers between the ages of 12 and 17 have been found to be far more likely than nondrinkers to say that their school work is poor (49.2 percent for heavy drinkers, 44.7 percent for binge drinkers, 27.5 percent for nondrinkers), and four to five times more likely to say that they cut classes or skipped school (54.7 percent for heavy drinkers, 40.8 percent for binge drinkers and 9.9 percent for nondrinkers).<sup>26</sup> (Figure 3.B)

<sup>†</sup> Heavy drinking is defined as having consumed five or more drinks in a row on five or more days in the past 30 days.

<sup>‡</sup> Binge drinking is defined in this study as having consumed five or more drinks in a row on one to four days in the past 30 days.

\* More than 20 cigarettes per day.



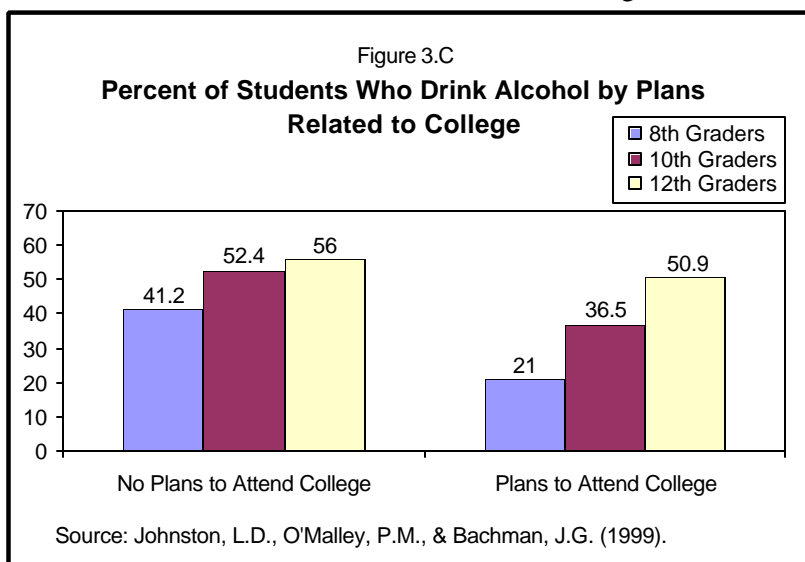
Students at high risk for alcohol abuse also are at high risk for being left back, being absent or suspended from school and performing poorly in reading and math.<sup>27</sup> One study found that 16 to 18 percent of teenage drinkers had missed school (or work) because of alcohol use.<sup>28</sup>

High school students who use alcohol or other substances frequently are up to five times more likely than other students to drop out of school.<sup>29</sup> A study conducted in Norway confirmed U.S. findings that the risk for school dropout increases with the frequency of alcohol intoxication.<sup>30</sup> In this study, alcohol intoxication was related to skipping school, having friends who engage in problem behaviors, spending fewer hours on homework, getting lower grades and exhibiting more conduct problems.<sup>31</sup>

Like smokers, students who use alcohol are less likely to have plans to go to college.<sup>32</sup> Eighth grade students who do not have plans to attend a four-year college are nearly twice as likely to use alcohol as their college bound peers (41.2 percent vs. 21 percent).<sup>33</sup> Among tenth graders, over half (52.4 percent) of those without plans to attend college drink alcohol compared to a third (36.5 percent) of those who do have college plans.<sup>34</sup> The gap was smaller among twelfth graders, but college bound high school seniors

were still less likely to use alcohol (50.9 percent) than noncollege bound seniors (56 percent).<sup>35</sup> (Figure 3.C)

Preliminary research involving studies on animals (it is unethical to do this type of research on children) suggests that because their brains are still developing, teens who drink to excess may be destroying significantly greater mental capacity than older drinkers.<sup>36</sup> The younger the drinker, the greater the risk to cognitive functioning. Scientists--mostly examining cognitive functioning in adolescent and adult rats and then broadening those experiments to humans--have found that teen drinkers appear to be most susceptible to damage in the hippocampus, a part of the brain involved in certain aspects of learning and memory, as well as damage in the prefrontal cortex which is involved in decision making.<sup>37</sup>



The average size difference of the hippocampus between healthy teens and alcohol-abusing teens is roughly 10 percent.<sup>38</sup> Finding that the equivalent of just two beers in adolescent rats had twice the adverse impact on their brains (hippocampal cells) as on the brains of adult rats, researchers began to suspect that alcohol consumption might have a dramatic effect on adolescent learning.<sup>39</sup> In a study comparing individuals in their early 20s to those in their later 20s, the researchers found that, after three

drinks with a blood alcohol level slightly below 0.08 percent, the younger group's learning was impaired 25 percent more than the older group's.<sup>40</sup>

Alcohol-dependent youth also fare worse than nondependent youth on language and attention tests.<sup>41</sup> In one study, teens with alcohol problems demonstrated greater difficulty recalling both verbal and nonverbal information that they had learned just 20 minutes earlier.<sup>42</sup> According to one of the authors of this study, "the study shows that just several years of heavy alcohol use by youth can adversely affect their brain functions in ways that are critical to learning."<sup>43</sup>

### ***Marijuana Use Undermines Achievement***

Marijuana use is related to lower grade point average, less satisfaction with school, negative attitudes toward school, increased rates of absenteeism and poor school performance.<sup>44</sup> Long-term regular marijuana use can impair memory, attention span and the ability to understand complex information.<sup>45</sup> Anxiety and paranoia are the most common adverse reactions to heavy marijuana use, particularly among inexperienced users.<sup>46</sup>

Whereas before the mid-1970s most students first tried marijuana during high school or college, many first-time users today are in middle school.<sup>47</sup> Early use of marijuana increases the risk of negative academic outcomes. One study found that students who used marijuana before the age of 15 were three times more likely than other students to have left school before age 16 and were two times likelier to report frequent truancy.<sup>48</sup> Another study examining more long-term educational outcomes found that early alcohol, marijuana and other drug use predicted early school dropout, failure to graduate from high school and failure to obtain a college degree.<sup>49</sup>

Marijuana use is associated with distinctive withdrawal symptoms, including restlessness, irritability and sleep disturbance,<sup>50</sup> that can interfere with learning. Contrary to popular opinion that marijuana is not addictive, 48.2

percent of teens who enter substance abuse treatment are admitted for abuse or addiction to marijuana.<sup>51</sup>

*Decisions about drugs or drinking, even as early as middle school, can make a difference between academic success and failure. All of us--policymakers, educators, parents and citizens--must refocus on early risk indicators as we work to assure a better future for our children.<sup>52</sup>*

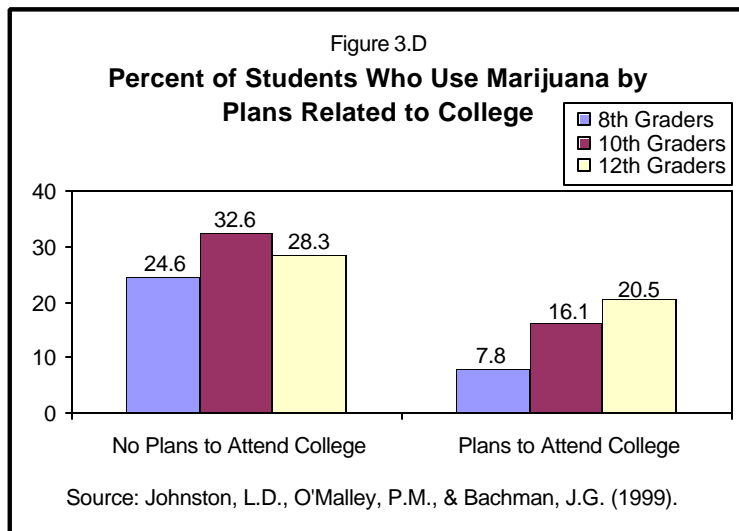
--Gary Locke, Governor  
Washington State

Some researchers propose that regular use of marijuana leads to what often is called an "amotivational syndrome," which is characterized by reduced motivation, apathetic withdrawal of energy and uncertainty about long-range goals.<sup>53</sup> Students experiencing this syndrome do not seem to care--they become increasingly passive and less oriented toward achievement. The amotivational syndrome is often manifested in impaired memory, concentration and judgment as well as the abandonment of academic pursuits.<sup>54</sup> High school students who use marijuana regularly have been found to care less about doing well in school and to have lower occupational expectations than students who use marijuana infrequently or not at all.<sup>55</sup> A more widely accepted explanation is that marijuana use increases the risk that a youth will adopt other unconventional or problem behaviors, including loss of interest in academics.<sup>56</sup>

*Students in CASA's focus groups indicated that those who have future goals and are oriented toward the future are less likely to use drugs.*

Eighth grade students who do not have plans to attend college are more than three times likelier to use marijuana than those who do intend to go to college (24.6 percent vs. 7.8 percent).<sup>57</sup> Tenth graders who do not intend to go to college are twice as likely to use marijuana as those with college plans (32.6 percent vs. 16.1 percent).<sup>58</sup> While the gap was smaller among twelfth graders, those who are college bound were still

less likely to use marijuana (20.5 percent) than noncollege bound seniors (28.3 percent).<sup>59</sup> (Figure 3.D)



has been found among teens and young adults.<sup>66</sup> Students' use of the stimulant methylphenidate (Ritalin) and pain relievers such as OxyContin and Vicodin is on the rise.<sup>67</sup> These and other prescription drugs, when abused, can alter the brain's activity and lead to dependence and addiction.<sup>68</sup>

One reason for the increase in the abuse of prescription medications among students may be that more students are being prescribed these drugs-- particularly Ritalin and antidepressants-- and their increasing availability contributes to their abuse. Ritalin is a prescription medication prescribed to children and adults for the treatment of attention deficit hyperactivity disorder (ADHD). In recent years, prescription rates for this medication have increased

dramatically, particularly for children between the ages of five and 19.<sup>69</sup>

### *The Agony of Ecstasy*

*There's a terrible myth out there that Ecstasy is a benign, harmless, fun drug--a hug drug.<sup>65</sup>*

--Alan I. Leshner, Ph.D., Director  
 National Institute on Drug Abuse

*A recent survey in rural Wisconsin found that 16 percent of students who use Ritalin reported being asked to sell, give or trade Ritalin at school.<sup>70</sup>*

Use of Ecstasy, or MDMA, has been on the rise among high school students.<sup>60</sup> Ecstasy's psychological effects include confusion, depression, sleep problems, anxiety and paranoia during and sometimes weeks after taking the drug. Repeated use of Ecstasy impairs learning and memory.<sup>61</sup> Heavy Ecstasy users have visual and verbal memory problems that persist for at least two weeks after use of the drug has been stopped.<sup>62</sup> One study found that continued use of Ecstasy was associated with difficulty in recall and vocabulary.<sup>63</sup> Ecstasy use also may lead to impairments in other cognitive functions besides memory, such as the ability to reason verbally or sustain attention.<sup>64</sup>

### *Diversion of Prescription Drugs*

According to the National Institute on Drug Abuse, the most dramatic increase in new users of prescription drugs for nonmedical purposes

Research has begun to demonstrate that high proportions of youth who take psychiatric medications such as Ritalin do not meet the diagnostic criteria for which these medications were designed.<sup>71</sup> Many adults, including parents, school staff and physicians have looked to Ritalin to help control disruptive children, often under circumstances in which the child's behavior is actually within normal range.<sup>72</sup> Teachers frustrated by large class sizes and by ill-prepared and unruly children may encourage a parent to put a child on Ritalin. A parent who has a child with behavioral problems may pressure the child's physician to prescribe the drug. When used by individuals without ADHD, Ritalin shares the same physical and mental health risks as the abuse of any other stimulant including cocaine.<sup>73</sup>

## **Substance Use and Abuse Increase Discipline Problems**

Student substance use, particularly heavy or frequent use, is associated with increased levels of delinquent behavior.<sup>74</sup> Weekly marijuana users are twice as likely as nonusers to disobey teachers and other staff at school.<sup>75</sup> Students reporting drug selling and early drug use are significantly more likely to report engaging in violent behavior.<sup>76</sup> Student substance use, particularly heavy or frequent use, also is associated with increased levels of truancy.<sup>77</sup> Adolescents who use marijuana weekly are almost six times as likely to cut class or skip school as those who do not use marijuana (60 percent vs. 11 percent).<sup>78</sup>

## **Substance Abuse is Not an Isolated Problem**

Students who smoke, drink or use other illicit drugs are at increased risk for a variety of co-occurring mental health disorders that can interfere with their ability to concentrate on school material, behave appropriately in class and contribute effectively to school activities and functions.<sup>79</sup> Substance use is associated with depression,<sup>80</sup> anxiety disorders,<sup>81</sup> attention deficit hyperactivity disorder (ADHD), conduct disorder<sup>82</sup> and eating disorders.<sup>83</sup> The research shows strongly and consistently the confluence of problem behaviors in students: delinquency, drug use, precocious sexual behavior, reading problems, gang membership and gun ownership.<sup>84</sup>







## Chapter IV

### The Malignancy Spreads

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Before a teen graduates from high school, he or she will face a conscious decision whether to use tobacco, alcohol, marijuana, Ecstasy or other drugs. The most significant influence on whether a middle or high schooler decides to smoke, drink or use illegal drugs is parents. Next to parents, schools have the greatest power to influence that choice. Middle and high schools have a potent impact on two of the most important considerations in a student's decision whether to use drugs: the availability of the substances and the teen's perception of the risk of using tobacco, alcohol, marijuana, Ecstasy and other drugs.<sup>1</sup> The failure of so many schools to keep these substances off their premises is their most malignant neglect.

#### **Availability of Tobacco, Alcohol and Drugs Increases Use**

##### *Tobacco is Easily Available to Most Teens*

When cigarettes are more available, youth are likelier to use them.<sup>2</sup> The majority of students (68.7 percent of eighth graders, 86.8 percent of tenth graders) say that it would be "fairly easy" or "very easy" to get cigarettes if they wanted to.<sup>3</sup> (Figure 4.A) Nationwide, 23.5 percent of teens under the age of 18 report that they purchased cigarettes in a store or gas station during the past 30 days.<sup>4</sup> Approximately two-thirds of students (69.6 percent) who purchased cigarettes in a store or gas station had not been asked to show proof of age.<sup>5</sup>

##### *Alcohol is There for the Taking*

One of the most significant contributing factors to underage drinking is easy access to alcohol.<sup>6</sup> Efforts to reduce availability of alcohol to youth are complicated by the fact that alcohol is a legal drug with perceived social benefits. Adults across the nation regularly consume alcohol responsibly and in moderation. Alcohol is a

common and enjoyable companion to dining in this country, an integral part of many celebratory events and incorporated into some religious rituals. In many of these activities, adults routinely include teens in ways that expose them to responsible alcohol use.

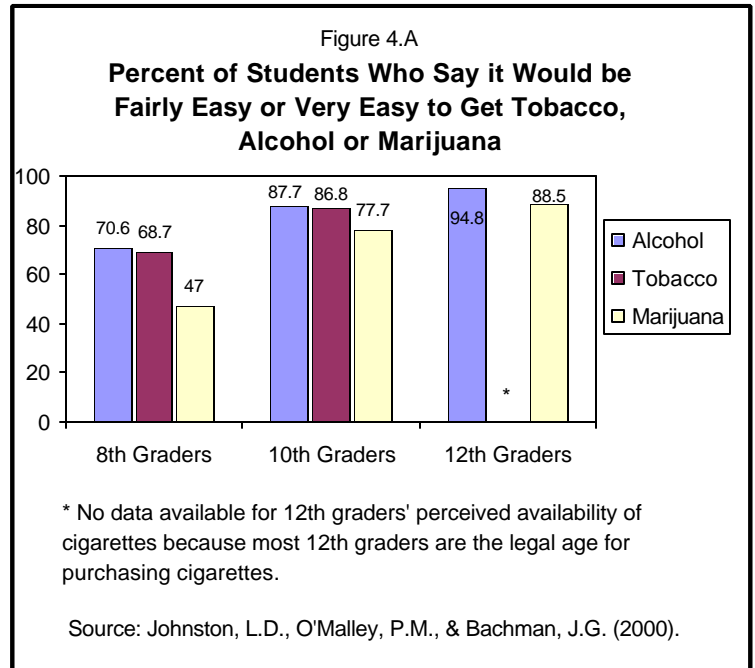
But many times adults send messages to youth that are not so responsible. Parents may minimize the consequences of alcohol use, particularly by children. They may teach their children by their own behavior that alcohol use is the way to relax or that excessive drinking is fun. They may look the other way or even provide alcohol to their children for personal use or for parties.

*When asked why people use drugs, the main answers given by preadolescent students in CASA's focus groups were "to relax," "to take away stress," and "to get drunk and forget all your troubles."*

Because drinking is so common in our society, most high school students say that it would be "fairly easy" or "very easy" to get alcohol (70.6 percent of eighth graders, 87.7 percent of tenth graders, 94.8 percent of twelfth graders) if they wanted to.<sup>7</sup> (Figure 4.A)

Adults over the age of 21 have been found to be the primary source of alcohol for teens in the ninth through twelfth grades and for 18- to 20-year olds.<sup>8</sup> Many teens obtain alcohol from their friends, at parties or by asking strangers to buy it for them, stealing it, using older siblings' identification cards or phony IDs to purchase it, or taking it from their parents' homes.<sup>9</sup> Teens also obtain alcohol with relative ease from commercial establishments.<sup>10</sup>

Two-thirds of teenagers who drink report that they can buy their own alcohol.<sup>11</sup> Research strongly suggests that high concentrations of alcohol outlets result in increased rates of alcohol consumption and alcohol-related problems.<sup>12</sup>



### ***Marijuana and Other Drugs are There for the Asking***

As with alcohol, drug availability is tightly linked to drug use. Among youth who say that it is fairly or very easy to obtain marijuana, 12.9 percent are current users; among those who say that is difficult to obtain marijuana, only 1.5 percent report current use.<sup>13</sup>

Almost half (47 percent) of all eighth graders, close to 80 percent (77.7 percent) of tenth graders and almost 90 percent (88.5 percent) of twelfth graders say that it would be "fairly easy" or "very easy" to get marijuana if they wanted to.<sup>14</sup> (Figure 4.A) Almost half of all students report that they could get marijuana within one day and a quarter report that they could get acid, heroin or cocaine within a day if they wanted to.<sup>15</sup> Forty-five percent of teens say they can buy marijuana in an hour or less; only 14 percent say they can't buy it at all.<sup>16</sup> One in three teens (33 percent) say that marijuana is easier to buy than cigarettes or beer.<sup>17</sup> A high proportion of youth ages 12 to 17 (15.6 percent) report that they have been approached by someone selling drugs during the past month.<sup>18</sup> Most of these approaches were likely at school and by classmates.

## Student Substance Use Rises with Lower Perceptions of Harm

Students are more likely to smoke, drink or use drugs when they believe that the harm associated with use is low.<sup>19</sup> Teens who believe that there is no risk or only a slight risk of harm in smoking marijuana once a month are six times likelier to be current marijuana users than teens who believe there is a moderate or great risk of harm (18.5 percent vs. 3.1 percent).<sup>20</sup>

Older teens are less likely to think that using alcohol or drugs is harmful;<sup>21</sup> however, they are more likely to believe that smoking is harmful. Fifty-nine percent of eighth graders, 66 percent of tenth graders and 73 percent of twelfth graders say that smoking one or more packs of cigarettes per day is harmful.<sup>22</sup> In contrast, 56 percent of eighth graders, 51 percent of tenth graders and only 43 percent of twelfth graders think that having five or more drinks once or twice each weekend is harmful.<sup>23</sup>

*There's no question that the perception of risk, the perception of harm drives drug use as does availability; that is, the safer you think it is, the more likely you are to use it.*<sup>24</sup>

--Alan I. Leshner, Ph.D., Director  
National Institute on Drug Abuse

Only 10 percent of 12- to 14-year olds believe someone can smoke pot every weekend and still do well in school.<sup>25</sup> That number more than doubles to 23 percent among 15- to 17-year olds.<sup>26</sup> Three-quarters (74.8 percent) of eighth graders perceive the regular use of marijuana to be harmful, compared to two-thirds (64.7 percent) of tenth graders and 58.3 percent of twelfth graders.<sup>27</sup> Most troubling, half of high school teachers believe that a student who uses marijuana every weekend can still do well in school.<sup>28</sup>

### Signals of Risk in Youth

- Poor academic performance
- Current substance use
- Low self-esteem
- Depression or anxiety
- Learning or conduct disorders or eating disorders
- Sensation seeking, impulsivity
- Discipline problems (e.g., theft, truancy)
- Early sexual activity
- Poor coping skills
- Frequent mobility from school to school
- Inaccurate or limited knowledge about the effects of substance use
- Low perceptions of risk of substance abuse

## Parental Neglect Sets the Stage

CASA's research and the work of others consistently indicate that parents hold the most important key to their children's decision of whether or not to smoke, drink or use drugs.<sup>29</sup> Nearly four times as many teens (37.7 percent) who say their parents would neither approve nor disapprove of their smoking one or more packs of cigarettes a day are current smokers compared to teens who say their parents would strongly disapprove (10.6 percent). Twice as many teens (33 percent) who say their parents would neither approve nor disapprove of their having one or two alcoholic drinks nearly every day currently use alcohol compared to teens who say their parents would strongly disapprove (15.9 percent). Nearly four times as many teens (22.8 percent) who say their parents would neither approve nor disapprove of their trying marijuana once or twice are current marijuana users compared to teens who say their parents would strongly disapprove (5.7 percent).<sup>30</sup> Forty-nine percent of teens who never used marijuana credit their parents with their decision.<sup>31</sup>

While nearly three-quarters (73 percent) of parents say they recognize their influence over their teen's decision of whether or not to use drugs,<sup>32</sup> many parents neglect to fulfill their responsibility in this regard. Parents who refuse to send their children to schools infested with asbestos or lice routinely send their children to

schools riddled with drugs. Parents pay private schools hefty tuition to get their children into the best colleges and these schools deliver what they are paid to do. Yet these same parents fail to demand that private schools get themselves drug free as part of the service for their tuition payments.

### Signals of Risk in the Family

- Prenatal exposure of children to tobacco, alcohol or drugs
- Family history of substance use
- Tobacco or drug use and alcohol abuse by family members
- Parental mental health problems
- Poor parent/child communication
- Low parental monitoring and support
- Little quality time spent with children
- Low parental affection
- Family conflict

Some parents encourage substance use by their own conduct. For example, 18 percent of teens (25 percent of 15- to 17-year olds) have attended a party in the past two years at which parents purchased alcohol for underage teens or served alcohol to them.<sup>33</sup>

Many parents are in denial about the high rates of substance use among their children and their children's friends.<sup>34</sup> Some are unwilling to admit that their children have a problem, particularly to school personnel. Parents may be reluctant to confide in school staff regarding their own or their children's substance use for fear that the information will not be handled in a confidential manner, that their children will be stigmatized by faculty and peers, that it might appear on their children's academic record, or that their children might be suspended or expelled. Parents who are aware of schools' zero-tolerance policies may fear having their children's academic careers become tarnished or destroyed because of their smoking, drinking or drug use. Parents, like schools, may see more risks than benefits in acknowledging their child's substance use.

*Parents expect schools to handle drug issues related to their children.*

--School Administrator  
CASA Focus Group

### ***Parent's Own Substance Abuse Hurts Children***

Children of substance-abusing parents are at risk for numerous cognitive and behavioral problems, many of which may have profound effects not only on children's physical and mental health but on their academic success as well.<sup>35</sup> These risks can stem both from prenatal exposure to tobacco, alcohol or illicit drugs or from growing up in a home with a parent who abuses these substances. The onset of academic difficulties in children whose parents use and abuse substances is likely the result of the combined influence of genetic and psychological vulnerability.

Whether their problems derive primarily from prenatal exposure to tobacco, alcohol or drugs or from a home environment centered on substance abuse is often not clear. Substance-abusing parents often have other characteristics that compromise children's academic achievement, such as economic instability, unemployment, troubled marriages and social isolation.<sup>36</sup>

*Approximately 10 percent of public and private elementary and secondary school principals report that parental alcohol/drug abuse is a serious problem in schools.<sup>37</sup>*

**Prenatal Exposure to Addictive Substances Increases Academic Problems.** Prenatal exposure to tobacco, alcohol and illicit substances may produce physiological changes in the developing fetus' brain and result in mild to severe cognitive deficits.<sup>38</sup> Prenatal exposure to these substances also affect children's ability to perform well in school by increasing the risk of behavioral problems and conduct disorders, such as impulsive behavior and ADHD.<sup>39</sup> These behavioral problems, which often result in a child being labeled as having a learning

disability, can significantly handicap their academic careers.<sup>40</sup> Children who have difficulty focusing their attention or controlling disruptive behavioral impulses might be disciplined more often in school, reinforce teachers' negative opinions of them and have difficulty forming functional relationships with their classmates. All of these outcomes can affect a child's satisfaction with school as well as his or her desire and ability to perform well.

*Tobacco.* Prenatal exposure to tobacco is related to lower IQ and impaired verbal and math skills.<sup>41</sup> Long-term behavioral effects of prenatal exposure to maternal smoking include an increased risk for developing drug dependence and conduct disorders.<sup>42</sup> One study found that mothers who smoked frequently while pregnant were more than four times likelier to have sons with a conduct disorder and more than five times likelier to have drug dependent daughters than were mothers who did not smoke frequently.<sup>43</sup>

*Alcohol.* Children prenatally exposed to alcohol also may have lower IQ, problems in memory and information processing, poor problem solving skills, deficits in abstract thinking and math skills and, in some cases, mental retardation.<sup>44</sup>

Children suffering from Fetal Alcohol Syndrome (FAS), the most severe effect of prenatal exposure to alcohol, are at the greatest risk for long-lasting and pervasive mental health problems. One explanation for this is that prenatal exposure to alcohol creates anatomical changes in different parts of the brain, most notably, the hippocampus, a section of the brain that plays an important role in learning, memory and behavior control.<sup>45</sup>

One study found that seven-year old children who had been prenatally exposed to large amounts of alcohol scored lower on arithmetic and reading achievement tests than nonexposed children.<sup>46</sup> By age 11, greater prenatal exposure to alcohol was related to worse teachers' ratings of children's academic performance as well as to lower scores on math and general achievement tests.<sup>47</sup>

*Illicit Drugs.* Prenatal exposure to illicit drugs can result in lower IQ and problems with attention and learning.<sup>48</sup> One study found that children prenatally exposed to marijuana demonstrated decreased performance on visual perceptual tasks, language comprehension, attention and memory.<sup>49</sup> Fetal exposure to cocaine, phenylcyclidine hydrochloride (PCP) and other drugs that act on the central nervous system can result in abnormal brain wave patterns, causing an autistic-like withdrawal and failure to respond to environmental stimuli.<sup>50</sup> Prenatal cocaine exposure can result in motor delays, organization problems and difficulty switching between sleep and alertness--a major liability for academic performance.<sup>51</sup>

**Having a Substance-Abusing Parent Increases Academic Problems.** Children who grow up in a home with parental substance abuse are at risk for poor academic outcomes. Children of alcoholics and other drug abusers often receive less supervision, encouragement, support and attention from their parents,<sup>52</sup> resulting in frequent absences from school, lateness, not having clean clothes to wear or having no breakfast before the school day begins. Parents preoccupied with drugs often are not there for discussions at the dinner table or to help with homework. Childcare is often inconsistent and parental monitoring of children's behaviors may shift between excessively harsh punishment and no discipline at all.<sup>53</sup>

Children neglected in these ways tend to earn lower grades and have more suspensions, disciplinary referrals and grade repetitions than other children.<sup>54</sup> The general decline in academic performance that typically occurs as children enter junior high school is intensified in neglected children.<sup>55</sup> The effects attributed to neglect are far-reaching and include a greater risk of low self-esteem, rejection by peers and association with troubled and deviant peers--all risk factors for substance abuse.<sup>56</sup>

*Children of Smokers.* One study of children of smokers found that the more environmental tobacco smoke a child was exposed to, the lower the child's IQ, perhaps due to detrimental effects

of certain tobacco by-products on cognition, particularly on children's attention spans.<sup>57</sup> Another study found a link between maternal smoking and children's behavior problems.<sup>58</sup> Increased rates of children's behavior problems were independently associated with all types of exposure to maternal cigarette smoke, including passive exposure after birth.

*To expose asthmatic children to environmental tobacco smoke is nothing short of child abuse. But even those youngsters who are otherwise perfectly "normal" have severe deleterious effects from exposure to smoking parents.<sup>59</sup>*

--C. Everett Koop, M.D.  
Former Surgeon General  
April 20, 1998

*Children of Alcoholics.* Children of alcoholics (COAs) tend to have greater academic difficulty,<sup>60</sup> even when comparing children of similar intelligence.<sup>61</sup> One study found that school-age children living with alcohol-dependent fathers had lower IQ scores than children whose fathers were not dependent on alcohol.<sup>62</sup> COAs often are more disorganized and have more difficulty concentrating--two problems that can significantly compromise their academic success.<sup>63</sup> COAs are likelier than nonCOAs to attend more schools, have to repeat a grade, fail to graduate from high school and get referred to a psychologist.<sup>64</sup>

Much of the academic difficulty demonstrated by COAs can be attributed to environmental factors that relate to parental alcoholism. For example, COAs are more likely to be psychologically maladjusted, have motivational problems and come from a chaotic or stressful home environment that makes studying or completing homework difficult.<sup>65</sup> Parents whose attention and energies are consumed by the need to maintain a drug supply have little left over for their children. Crises in their own tumultuous lives often make substance-abusing parents unreliable.<sup>66</sup>

COAs often receive less supervision, encouragement, support, intellectual engagement

and attention from their parents, resulting in frequent absences from school, tardiness and poor academic performance.<sup>67</sup> COAs who do receive adequate parental supervision and involvement (perhaps from a nonalcoholic parent or sibling) are less likely to demonstrate the full range of academic problems.

*Children of Illicit Drug Abusers.* Children of parents addicted to heroin, cocaine and other illicit drugs demonstrate significant problems in cognitive development and school progress.<sup>68</sup> Children of heroin-addicted fathers are at greater risk for learning and behavioral difficulties in school, lower IQ, a greater need for remedial teaching and more absences from school.<sup>69</sup> These children also demonstrate emotional and behavioral problems that undoubtedly can affect their schoolwork. In addition to lower IQ scores, children of illicit drug abusers are more likely to demonstrate immature, impulsive or irresponsible behavior.<sup>70</sup> Children of illicit drug abusers also are more likely to be disobedient, aggressive, withdrawn, detached and have fewer friends than children of parents who do not abuse illicit drugs.<sup>71</sup>

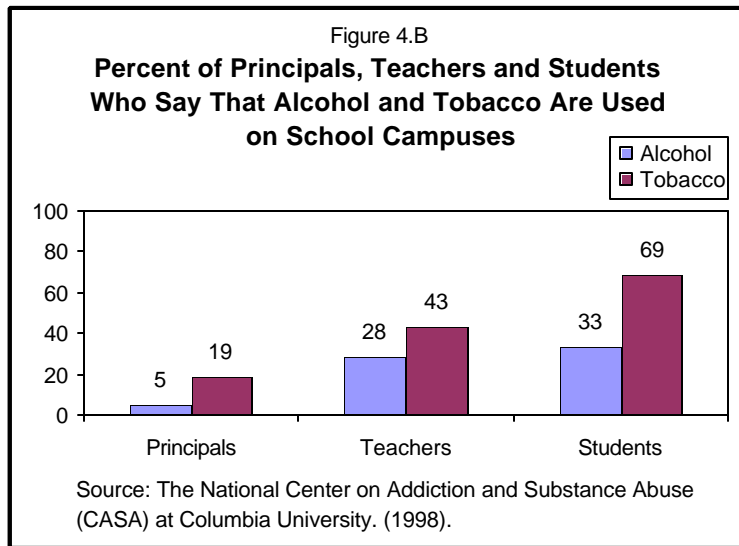
## **School Neglect Compounds the Problem**

Remarkable differences exist between students' and school personnel's perceptions of student drugs use. Principals provide the lowest estimates of student drug use, followed by teachers and then students.<sup>72</sup> Only 19 percent of principals reported that students smoke on school grounds compared to 43 percent of teachers and 69 percent of students.<sup>73</sup> While only five percent of principals reported that students drink on school grounds, 28 percent of teachers and 33 percent of students report that drinking occurs at school.<sup>74</sup> (Figure 4.B)

Nearly 60 percent of principals, compared to 26 percent of teachers and 16 percent of students, report that, at most, 10 percent of students use illegal drugs at least once a month.<sup>75</sup> When asked in 1998 if their school grounds were drug free, only 11 percent of principals said that they were

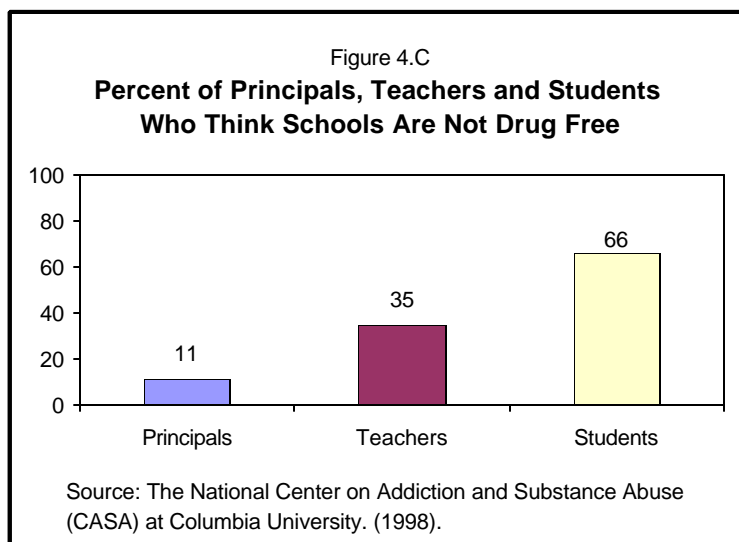
not, compared to 35 percent of teachers and 66 percent of students.<sup>76</sup> (Figure 4.C)

multiple ways in which parental substance abuse affects student academic performance.<sup>77</sup>



Teachers are three times likelier than principals to believe that at least a quarter of their students have tried hard drugs like cocaine, heroin and acid.<sup>78</sup> Teachers also are more inclined than principals to believe that the drug problem is getting worse.<sup>79</sup>

Teachers may have lower academic expectations for children of substance abusers, attributing much of their poor performance to parental drug use. Teachers might treat these students differently, contributing to a differentiation in the child's academic progress.<sup>80</sup> Such self-fulfilling prophecies are common in educational settings and can have long-lasting effects on children.<sup>81</sup> Parents of classmates might label children of substance abusers as troubled or difficult and encourage their children to avoid contact or interactions with them.<sup>82</sup>



Many teachers face overcrowded classes, limited resources and uninvolved parents. Substance use is viewed often as just one more problem with which they are unprepared and unqualified to cope. They may view students with substance problems as disruptive to their classroom and tend to ignore or seek to get rid of them. Even those who do attempt to

There is a reason why many school administrators and teachers may neglect to acknowledge the extent of substance use among students on school grounds. Administrators are accountable for providing safe and drug-free schools. Acknowledging the full extent of substance use on and off school grounds may place them in jeopardy of losing their jobs.

intervene on behalf of a student who is known to be in need of treatment often face insurmountable roadblocks, particularly as a result of the dearth of quality and affordable treatment programs available for youth in any given community.

Teachers, who have daily interactions with students, are on the front lines and are more likely to acknowledge an awareness of the problem of student substance use as well as the

Many school administrators and teachers throw up their hands in despair over the problem of substance abuse. CASA's focus groups conducted for this report reveal the frustration that teachers, principals and other school staff feel about how to address this problem. Many are aware that current efforts to prevent and intervene are not working.



*You eventually send them out to a principal. But there are so many rules and so many restrictions and so many rights that are given to the kids, that they can't be tested, they can't be kicked out. And their parents can say that the school cannot do this to my child because there is no proof...my child is ill. And they will take the child home.*<sup>85</sup>

--Sharon Draper, Teacher, Ohio  
Winner of the *National Teacher of the Year*  
award in 1997, 1998

CASACONFERENCE: *Substance Abuse in the  
21<sup>st</sup> Century: Positioning the Nation for Progress*

(In response to the question, "What do you do  
with a kid who is zoned out and disoriented?")

### ***Substance Use and Abuse by School Staff Interfere with Students' Academic Performance***

A government report examining drug use among U.S. workers found that more than 350,000 teachers (9.2 percent) admitted past year illicit drug use and more than 83,000 teachers (2.2 percent) admitted heavy alcohol use.<sup>83</sup> The use of drugs and abuse of alcohol by teachers compromise their ability to fulfill their educational responsibilities. Teachers who abuse drugs are more likely to miss days of school or come to work in an impaired state,<sup>84</sup> disrupting students' ability to learn. While the majority of teachers, principals and schools staff do not use illicit drugs or abuse alcohol, those who do smoke or drink in view of students set poor examples and risk having students disregard their warnings about the dangers of substance use.

### ***Higher Risk at School Transitions***

Though some students begin using and abusing substances as early as the fourth grade, a significant jump in the proportion of students using substances for the first time occurs during the transition to middle school, between fifth and sixth grades. Eighth grade students are more than twice as likely to have used cigarettes daily for the first time (2.8 percent vs. 1.2

percent) and nearly three times as likely to have been drunk for the first time (4.5 percent vs. 1.6 percent) in the sixth grade as in the fifth grade.<sup>86</sup> More than twice as many eighth grade students report having used marijuana for the first time in the sixth grade than in the fifth grade (4.6 percent vs. 1.7 percent).<sup>87</sup>

Another significant school-related transition occurs in the years between middle and high school. Twice as many tenth graders report having developed a daily cigarette habit for the first time when they were in the ninth grade than in the seventh grade (6.6 percent vs. 3.3 percent). These students are more than twice as likely to have gotten drunk for the first time in the ninth grade than in the seventh grade (16.5 percent vs. 6.5 percent) and nearly twice as likely to have smoked marijuana for the first time (12.1 percent vs. 6.9 percent).<sup>88</sup>

### **Signals of Risk at School**

- Tobacco, alcohol and drugs available at school
- Parents not engaged in schools
- Mixed or inconsistent messages about substance use
- Low student attachment to school
- Teachers and administrators who smoke at school
- Low or inconsistent expectations for student achievement and behavior

### ***Higher Risk With Student Mobility***

Many students move from town to town, remaining in one school only for short periods of time. Students who move often\* are more likely than those who have not moved at all† to smoke (27.1 percent vs. 13.3 percent), drink alcohol (27.7 percent vs. 18.7 percent), use marijuana (12.9 percent vs. 6.9 percent) and use other drugs (8.6 percent vs. 4.9 percent).<sup>89</sup>

\* Five or more times in the past year.

† In the past five years.

## Peers Raise the Stakes

Older children tend to focus less on family and more on the wider world of friendships and social networks at school. The peer group becomes increasingly influential on student substance use.<sup>90</sup>

Students with friends who smoke cigarettes are nine times likelier to smoke than those who do not have such friends.<sup>91</sup> Those with friends who drink alcohol are seven times likelier to drink and those with friends who use illicit drugs are more than 10 times likelier to use drugs.<sup>92</sup> Thirty-four percent of teens have friends who are current users of marijuana.<sup>93</sup> Teens at high risk for drug use are far more likely than those at low risk to have friends who use marijuana (86 percent vs. three percent) or know of a friend or classmate who uses an illicit drug (71 percent vs. 15 percent).<sup>94</sup>

Patterns in student substance use vary with changes in perceptions of substance use norms, or the substance use habits of peers.<sup>95</sup> When students think substance use is prevalent among their peers, they tend to engage in more substance use themselves.<sup>96</sup> For example, seventh grade students who believe that cigarette smoking would improve their social status are 64 percent more likely to try cigarettes by the eighth grade than are students who do not share that viewpoint.<sup>97</sup> One study found that teens who have a peer group in which 50 percent or more members smoke or who have a best friend who smokes are almost twice as likely to report current cigarette smoking as those in peer networks with no smoking members.<sup>98</sup> Adolescents with symptoms of depression and anxiety are more readily convinced by their peers to start smoking than are those who are not depressed or anxious.<sup>99</sup>

A difficult relationship with parents heightens the degree to which students are influenced by their peers.<sup>100</sup> Adolescents who use alcohol and drugs tend to seek support from their peers rather than from parents and tend to spend more time with friends than family.<sup>101</sup> Young people who are supervised poorly or inconsistently by

their parents are more likely to associate with peers who use alcohol and drugs.<sup>102</sup> Students who lack a safe haven at home because of parental substance abuse are more likely to mix with peers who abuse drugs.<sup>103</sup>

## Academic Performance

The level of peer substance use in schools is related to students' academic performance. Peer substance use is linked to lower reading and math scores, independent of the student's own substance use.<sup>104</sup> On average, students whose peers did not use substances had test scores that were 18 points higher for reading and 45 points higher for math.<sup>105</sup> Learning often occurs in groups of students rather than alone and a student who is disruptive or somehow exhibiting the effects of substance use can compromise the learning environment of all students in the classroom. Peer substance use is related to student acceptance of antisocial behavior and less positive involvement in school and community activities.<sup>106</sup>

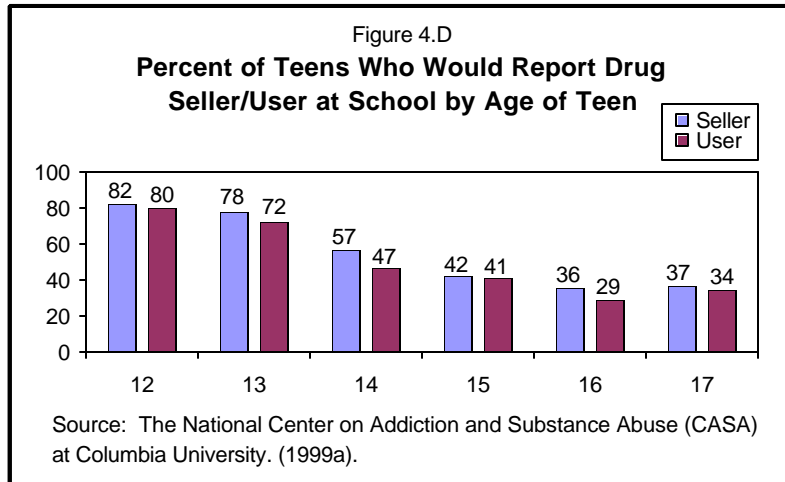
## Willingness to Report Substance Use

As students age, they become less and less willing to report another student who is using or selling drugs at school. Overall, 51 percent of teens say they would report a student who was using drugs at school and 55 percent say they would report a student who was selling drugs at school.<sup>107</sup> Willingness to intervene in this way decreases dramatically with age: 82 percent of 12-year olds would report a classmate who is a drug dealer to school officials, but only 37 percent of 17-year olds would do so.<sup>108</sup> (Figure 4.D)

## The Community Setting

Middle and high schools are not convents and the communities in which they are located have an impact on the risk of students smoking, drinking and using drugs.

The ready availability of alcohol and drugs in a neighborhood, tolerance for youth substance use, pervasive substance use in the community,



adverse economic conditions, poor neighborhood physical conditions and a high crime rate all increase the risk of youth drug use and poor academic performance.<sup>109</sup>

Students who report that drugs are readily available in their neighborhoods or who come from neighborhoods where they have witnessed drug use are more likely to experiment with drugs and at an earlier age than those in neighborhoods where drug use is less common.<sup>110</sup> Students who say\* that there is a lot of drug selling in their neighborhood also are more likely than those who say there is not† to report current smoking (23.9 percent vs. 12 percent), drinking (28.1 percent vs. 15.6 percent), marijuana use (15.8 percent vs. five percent) and other drug use (9.2 percent vs. 4.2 percent).<sup>111</sup>

Students who say that there is a lot of crime in their neighborhood are more likely than those who say there is not to report that they currently smoke (17.2 percent vs. 14.5 percent), drink alcohol (19.8 percent vs. 18.6 percent), use marijuana (10.1 percent vs. 7.0 percent) or use other illicit drugs (7.5 percent vs. 4.9 percent).<sup>112</sup> Students living in neighborhoods high in poverty and neglect and low in safety are 1.7 times likelier to have been offered tobacco, 1.9 times likelier to have been offered alcohol and 5.6 times likelier to have been offered cocaine than

\* Strongly agree with the statement.

† Strongly disagree with the statement.

those living in relatively advantaged neighborhoods.<sup>113</sup>

Students who perceive low tolerance for substance use among the adults in their community are less likely to smoke, drink and use drugs.<sup>114</sup>

Teens who report that their adult neighbors would neither approve nor disapprove if they smoked one or more packs of cigarettes a day are more than three times as likely to be current smokers than teens who say their adult neighbors would strongly disapprove if they did so (29.8

percent vs. 8.5 percent).<sup>115</sup> Similarly, those who say the adults in their community would neither approve nor disapprove if they had one or two drinks a day are twice as likely to report current use of alcohol as those who say their neighbors would strongly disapprove if they did so (28.5 percent vs. 14.3 percent).<sup>116</sup> Finally, students who feel adults in their neighborhood would neither approve nor disapprove if they tried marijuana once or twice are more than three times as likely as those who feel their neighbors would strongly disapprove to have used marijuana in the past month (17.2 percent vs. 5.2 percent).<sup>117</sup>

Messages about community tolerance for substance use and delinquency are communicated not only by adults' attitudes but by the physical appearance of neighborhoods as well. Trash, grime and disrepair can suggest that communities tolerate deviance and can make residents feel unsafe.<sup>118</sup> One study found that students who say that there is a lot of graffiti in their neighborhood are somewhat likelier to smoke (16.9 percent vs. 14.9 percent), drink (19.7 percent vs. 18.5 percent), use marijuana (11.7 percent vs. 7.2 percent) and use other drugs (8.7 percent vs. five percent) than those who say that there is not a lot of graffiti in their neighborhood.<sup>119</sup> Likewise, youth who report empty or abandoned buildings in their neighborhood are likelier to smoke (18.7 percent vs. 14.6 percent), drink (22.7 percent vs. 18.7 percent), use marijuana (12.9 percent vs. 7.3 percent) and use other drugs (7.4 percent vs. five percent) than those who say that there are no

empty or abandoned buildings in their neighborhood.<sup>120</sup>





## Chapter V

### Interventions Miss the Mark

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Policies and enforcement procedures vary from state to state and from school to school. But school efforts to prevent and reduce substance use among students and keep tobacco, alcohol and other drugs off school grounds have focused primarily on four main strategies: zero-tolerance policies that mandate predetermined consequences for student sale, possession or use of tobacco, alcohol or drugs; drug testing; locker searches; and drug prevention curricula. To help in this effort, the federal government has designated drug-free school zones by doubling the criminal penalties for manufacturing or distributing controlled substances within a radius of 1,000 feet of schools.

In spite of these efforts, more than 14 million American middle and high school students attend schools where drugs are used, kept and sold on school property.<sup>1</sup> Schools address--and can only address--a few of the risk factors for student drug use. Prevention curricula will never be sufficient to prevent substance use. We will never test our way out of the student drug problem. Rigidly applied zero-tolerance policies may be a double-edged sword in our efforts to slash drug use.

Broader strategies are needed if we are to help keep students substance free so they can receive the education they need to develop their talents to the fullest and have a fair opportunity to share the American dream.

## Drug-Free School Zones

In response to public concern over an increase in illegal drug use during the 1980s, the U.S. Congress enacted legislation designating areas around schools and other areas where youth congregate as drug-free zones.<sup>3</sup> This law increases penalties for drug distribution or manufacturing within a 1,000 foot radius of a school. Drug-free zones around schools are intended to deter drug dealers and users from going near schools. The effectiveness of these penalties is not clear. A recent study of drug-free zones in Massachusetts revealed that despite these laws, 80 percent of drug dealing cases occurred in a school or park zone, although most not during school hours.<sup>4</sup>

## Zero-Tolerance Policies

Zero-tolerance policies are intended to deter use or punish any student who uses, possesses or distributes tobacco, alcohol, drugs or drug paraphernalia. Zero-tolerance policies mandate predetermined consequences or punishments--ranging from suspensions to expulsion and transfer to alternative schools--for specific substance-related offenses, regardless of the circumstances or disciplinary history of the student involved.<sup>5</sup> Among schools across the country, however, there is no standard definition, application or punishment connected with these policies.

Zero-tolerance policies originated as a way to deal with students who brought guns onto school property.<sup>6</sup> In 1995, the Supreme Court held that the Gun-Free School Zones Act of 1990, which made firearm possession in a school zone a federal crime, exceeded Congress' power since no federal property or interstate commerce was involved. The Court ruled that the Congressional act was unconstitutional. Following this ruling, many states enacted legislation and school boards established regulations to require schools to expel students for serious offenses, including the use of tobacco, alcohol and drugs. By 1998, 79 percent of public schools had zero-tolerance policies for

tobacco, 87 percent for alcohol and 88 percent for drugs.<sup>7</sup>

Zero-tolerance policies can send a strong anti-substance use message to students and identify student substance users, affording them the opportunity to get help. The consequences of zero-tolerance policies--such as suspensions and expulsions--help rouse parents' attention regarding their children's substance use and remove disruptive students from teachers' classrooms.

*A high school student in the Milwaukee area was expelled from school for two years for bringing in a small amount of marijuana to school, even though this was his first violation of the school's zero-tolerance policy on drugs and alcohol.<sup>2</sup>*

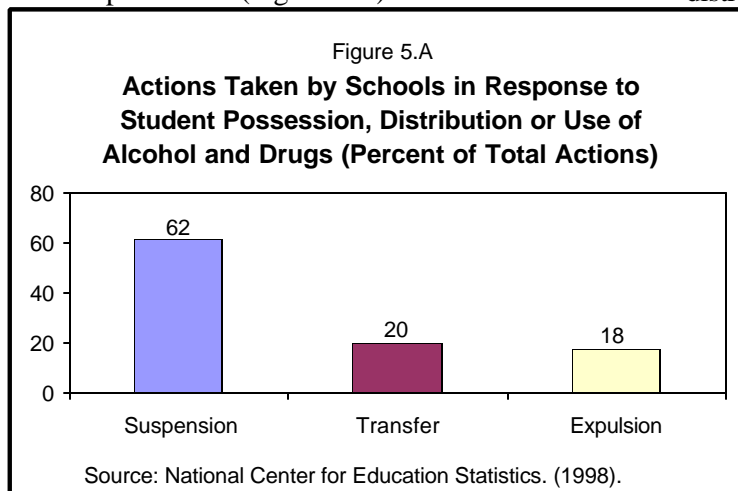
However, because the consequences are often severe, zero-tolerance policies may discourage teachers, parents and other students from reporting instances of student substance use. Furthermore, punishments related to zero-tolerance policies may not remedy the problem but merely transfer it from one place to another. Private school students who are expelled for drug use tend to go to public schools. Students expelled from public schools often are sent to alternative schools where they meet other substance-using students, further stacking the deck against the likelihood that they will give up alcohol or drugs. Zero-tolerance policies are not always coupled with counseling or treatment.

There are more than 15,000 alternative public schools nationwide, many offering either punitive or therapeutic school settings for expelled students or for those having serious academic achievement or behavior problems including substance abuse.<sup>8</sup> The smaller size of alternative schools and emphasis on the development of personal relationships between students and teachers and among peers are aimed at addressing emotional problems that may increase a student's risk of substance abuse. However, substance abuse is more prevalent in these schools than in traditional schools.<sup>9</sup> Some

school districts do not provide alternative education for suspended or expelled students.<sup>10</sup>

*A student in the Milwaukee area, facing a two-year suspension for a first time drug offense could have been readmitted had he earned a certain number of credits toward graduation, received a drug evaluation and agreed to random drug testing. However, no other school would admit this student to earn the required credits because of his drug offense.<sup>11</sup>*

During the 1996-1997 school year, 27 percent of schools reported taking a total of 170,000 actions in response to violations of zero-tolerance policies: 62 percent of the actions were out-of-school suspension lasting five or more days, 20 percent were transfers to alternative schools or programs, and 18 percent were expulsions.<sup>12</sup> (Figure 5.A)



Zero-tolerance policies sometimes extend beyond the school day, to include substance use in evenings and weekends during the school year. To enforce these policies, school administrators periodically contact law enforcement officials for lists of minors ticketed for possession of drugs or alcohol. In some states, such as Texas, Washington, Maine, Oregon, Illinois, Alabama, Louisiana, Minnesota, Tennessee, and Virginia, law enforcement and juvenile courts are required by state law to share information regarding student drug offenses or other records of delinquency with school authorities.<sup>13</sup>

*Suspensions don't work. Kids just go home to use drugs.*

--Student  
CASA Focus Group

## Student Drug Testing and Locker Searches

To catch students (and staff) who violate rules against substance use, schools conduct various forms of drug testing as well as locker searches. Drug testing in public schools is controversial because it raises Constitutional questions about the protection of civil liberties and the moral obligations of schools to police student and staff behavior with regard to substance use. In public schools, testing risks charges of defamation, invasion of privacy, infliction of emotional distress or wrongful discharge. In private schools, where participation is optional, schools can require that parents and students consent to student testing as a condition of attendance.

In 1985, the Supreme Court (*New Jersey v. T.L.O.*) upheld the constitutionality of a public high school administrator's search of a student's purse to obtain evidence confirming a teacher's observation of the student smoking in the bathroom, in violation of school rules. The unique circumstances and setting of a school were found to support some attenuation of Fourth Amendment\*

protection.<sup>14</sup> The Court explained that in order to uphold order and a proper educational environment, schools must be granted flexibility in their practices.<sup>15</sup>

\* "The right of people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."



In 1995, the Supreme Court (Veronia School District 47J v. Acton) upheld a drug-testing program that called for random urinalysis drug testing of students who wished to participate in interscholastic athletic programs.<sup>16</sup>

Since the Veronia case, several school districts have established random drug-testing programs for specific groups of students (i.e., athletes, those partaking in extracurricular activities).<sup>17</sup>

*Drug testing in schools gives you an excuse not to use drugs.*

--Student  
CASA Focus Group

Testing proponents believe that drug testing has been effective in preventing initial and repeated drug use,<sup>18</sup> and that drug testing is justified due to the severity of the problem of youth substance abuse and their perceptions of the efficacy of drug testing as a solution.

### **Who Gets Tested?**

There is little consistency in drug-testing policy among schools. No states require schools to have a drug-testing program. Some schools require drug testing for middle and high school students involved in athletic activities. Others require testing for all students in any extracurricular activity, including the debate team, academic decathlon, drama club and other nonathletic, school sponsored activities. School districts decide which students will be tested and whether testing will be conducted on a random basis as a prerequisite for participating in an extracurricular activity or for cause.

Students in CASA's focus groups said that athletes are singled out when it comes to drug testing. Athletes may be singled out because they are at greater risk for using performance-enhancing drugs and for using marijuana which can impede performance.

Although some parents have challenged the legality of drug testing, others approve of mandatory drug testing for their children in

schools. One school in New Orleans surveyed parents at the beginning of the school year and an overwhelming majority supported the proposal for random drug and alcohol testing of the students enrolled in extracurricular activities.<sup>19</sup>

### **Drug Testing and Methods**

Schools employ various measures to test students for drug use or drug possession. Urine and hair testing are among the most common methods used for testing students.<sup>20</sup> Most basic drug tests check for the presence of cannabinoids (marijuana, hashish), cocaine (cocaine, crack, benzoylecognine), amphetamines (amphetamines, methamphetamines, speed) opiates (heroin, opium, codeine, morphine), and phencyclidine (PCP). Some of the most commonly abused substances among students, including nicotine and alcohol, typically are not targeted because the tests for these substances are expensive and difficult to administer.<sup>21</sup>

*What we are trying to do in (our private) school is change behavior. We are not trying to throw out the kids. The whole program is not intended to be punitive...it's intended to assist the children, to get them counseling, to give a wake-up call to their parents and to try to help straighten them up.<sup>22</sup>*

--Yvonne Gelpi  
President and Principal  
De La Salle High School, New Orleans, LA  
Where all students are drug tested  
CASACONFERENCE: *Substance Abuse in the 21<sup>st</sup> Century: Positioning the Nation for Progress*

**Urinalysis.** Urinalysis is one of the most frequently used tests for cocaine, heroin, morphine and other narcotics. Most drugs can be identified in the urine within 24- to 36-hours after use. The period of detection of cocaine in urine is up to five days following last use, depending on the dose and duration of ingestion.<sup>23</sup> Marijuana can be identified two- to three weeks after use. As with any test, it is not foolproof. A negative test result does not indicate necessarily an absence of drug use.<sup>24</sup>

**Hair Analysis.** Drugs ingested in the body travel through the bloodstream and are deposited in hair follicles. Traces remain in the hair, which helps to determine the length of time the drugs have been used. The advantages of hair analysis include a wider window of time for detecting previous substance use--one to three months, relative ease of collection without embarrassment and little opportunity for tampering, although hair analysis might fail to detect drug use during the week prior to the test.

***Beating the Tests***

As drug testing in schools becomes more commonplace, a new industry aimed at beating the tests is flourishing. Ways to beat drug tests are common knowledge for many students. Students have been known to add adulterants to their urine samples or drink large quantities of liquids to try to dilute the urine.<sup>25</sup> Some additives chemically destroy toxins in the urine and some block the capability of the test to detect toxins in the urine. Some schools respond by testing urine for common adulterants.<sup>26</sup> Adulteration is possible when there is not a supervised collection process that can guarantee the purity of the sample.<sup>27</sup>

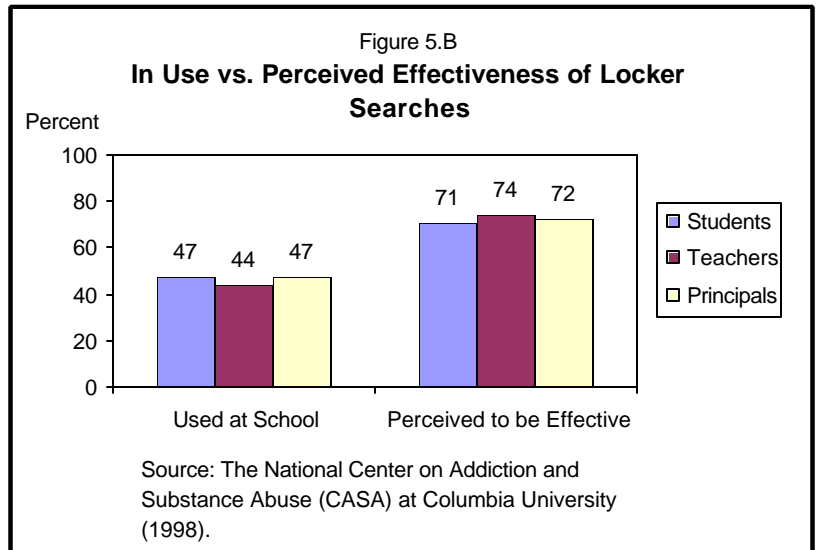
Students sometimes are forewarned that drug testing will occur in their schools. In one case in Texas, a permission slip was sent home with each student requesting that the parent or guardian give the school permission to perform urinalysis testing on the student. This type of warning obviously enables students to “prepare” for the test but may not deter overall levels of use.

***Locker Searches***

Locker searches are another tool used to keep drugs out of schools. In most instances, drug-sniffing dogs are used to identify lockers that may contain illegal drugs. The Pennsylvania Supreme Court ruled that random drug searches of students’ lockers in public schools do not constitute unlawful search and seizure under the

Fourth Amendment because student lockers are considered school property. The court held that students have limited privacy while in the school environment.<sup>28</sup>

CASA’s 1998 National Survey of Teens, Teachers and Principals found that although locker searches occur in less than half of schools--primarily in those where principals believe students are using drugs--72 percent of principals, 74 percent of teachers and 71 percent of students believe these searches would help reduce drugs in schools.<sup>29</sup> (Figure 5.B)



***Staff Drug Testing***

U.S. Department of Transportation regulations requires schools to test bus drivers. A number of school districts have drug-testing policies that include testing adults who come into contact with students, including teachers and coaches.<sup>30</sup>

The Supreme Court refused to review an appellate court decision upholding a policy in Knox County, Tennessee that required drug testing for teachers new to the school system, allowing that principals, assistant principals, teachers, teachers’ aides, substitute teachers, secretaries and bus drivers could be considered “safety-sensitive” positions.<sup>31</sup> The Knox County program requires persons applying to be teachers to take a urine drug test when offered a position at the school but before employment begins.<sup>32</sup> The appellate justices rejected the

teachers' claim that drug tests are unconstitutional if no one is actually suspected of using drugs.

## **Prevention Curricula: No Silver Bullet**

Schools have attempted to prevent student substance use by adopting prevention curricula in which students are taught the dangers of drug use, skills for resisting pressure from peers and the media to use drugs, and ways of improving their coping and decision-making skills. While some curricula show promise, their effectiveness is inherently limited because the risk factors for student substance use--and the motivations for student drug use--are not restricted to students' knowledge about the effects of the various drugs or their skills to resist pressures to use drugs.

Schools use three main types of intervention:<sup>33</sup>

- Broad-based prevention programs designed to prevent precursors of substance use or the initiation of substance use among all students. Such programs take a school-wide or classroom-wide approach to prevention and primarily focus on implementing a substance use prevention curriculum.
- Prevention programs focused on subgroups of students at high risk for substance abuse, such as children of drug users or alcoholics, poor school achievers, children with conduct disorders and children who demonstrate sensation-seeking, aggression or delinquency.
- Programs designed to prevent the worsening of problems in students who already are manifesting drug use behaviors.<sup>34</sup>

### ***Broad-Based Programs***

Most school-based prevention initiatives are aimed at all students regardless of risk status.<sup>35</sup> Most offer students a curriculum-based prevention program, although some schools do attempt to target risk factors beyond those that can be addressed in a curriculum program.<sup>36</sup>

## **Keeping Substances Out of Schools**

### ***Student Perspective***

- School rules against drug use do not necessarily have an effect on student behavior.
- Schools selectively enforce drug policies.
- A policy against student drug use does not always apply to teacher/staff use.
- Drug policy should provide sanctions as well as help students.
- Drug testing by schools provides an excuse not to use.
- Students know how not to get caught using drugs.
- It is impossible to keep drugs out of school, even with mandatory testing.
- If you want to get drugs in school, you can.

### ***School Teacher/Staff Perspective***

- Drug testing provides a safety net for students.
- Drug testing negatively influences the level of trust students place in adults.
- Sanctions for drug use are meted out on a case-by-case basis.
- The school's job is not to police students; it is to educate them.

--CASA Focus Groups with  
Students and School Staff

Classroom curricula usually contain information about substances of abuse and attempt to build students' skills at coping, decision-making and resisting peer influence.<sup>37</sup> A number of approaches have been developed and marketed to schools. Some schools adopt the curricula wholesale while others adopt elements adapted to their needs. This latter approach, in which the curriculum is not implemented as intended by the designers of the program, poses a problem for determining the effectiveness of a particular curriculum in reducing student substance use.

These programs cost less than programs that target specific sub-groups of children and require no special personnel or procedures for recruiting students.<sup>38</sup> Many broad-based

prevention programs have not been adequately evaluated for their effectiveness in reducing student substance use. Many that have been evaluated have not proven effective in the long term. Most evaluations of curriculum-based prevention programs have been conducted by the designers of the programs, with few independent, objective studies being conducted to evaluate their benefits.

#### **Curricula Designed to Provide Information.**

The underlying assumption of the informational approach to prevention--common in many prevention curricula--is that given the necessary facts about drugs and their consequences, students will make rational decisions not to use drugs.<sup>39</sup> Well-meaning individuals/groups have developed such programs on the basis of common sense assumptions about the risks associated with drug use.<sup>40</sup> Despite the fact that information about substances of abuse is one of several necessary components of preventing substance abuse,<sup>41</sup> research clearly indicates that just giving students information about drugs does not necessarily reduce drug use or intentions to use drugs.<sup>42</sup>

#### **Curricula Designed to Improve Social Skills.**

In response to research uncovering the complex pathways to youth substance use,<sup>43</sup> a broader based prevention approach focusing on teaching personal and social skills has been suggested.<sup>44</sup> Social skills education emphasizes teaching personal self-management and social aptitude through instruction, demonstration, feedback, reinforcement and in- and out-of-class practice. Classroom activities focus on building decision-making, communication and assertiveness skills, but do not include specific information related to drug use.

**Curricula Designed to Help Students Resist Adverse Social Influence.** A shift in the focus of drug prevention research occurred in the past two decades with recognition of the importance of psychosocial factors in the initiation of substance use.<sup>45</sup> Grounded in psychological theories of human behavior, the social influence approach in prevention curricula emphasizes the importance of persuasive influences, such as peers and the media, on the initiation and use of

tobacco, alcohol and drugs. Preparing students to recognize such influences and teaching skills for resisting them are the focal points of this approach.

Recently included in this approach is “normative education” which attempts to provide accurate information to students about the prevalence of substance use among their peers. The goal is to correct the often-inaccurate and inflated perceptions of widespread social use of alcohol, tobacco and other drugs.

A growing number of studies examining interventions based on the social influences approach have documented that this type of curriculum may hold more promise than some others.<sup>46</sup> Evaluation studies have found 30 to 50 percent reductions in tobacco, alcohol and marijuana use in the short-term. There is little evidence of the long-term effectiveness of these programs.

Programs that correct students’ often inaccurate beliefs about their peers’ use of substances, provide training in peer influence resistance skills and develop strong student attachment to school appear to have a greater impact on student substance use than information-based or social skills development approaches alone.<sup>47</sup> Evaluations suggest they help reduce tobacco use, but their efficacy in reducing alcohol and drug use is less certain.<sup>48</sup>

#### ***Key Curriculum-Based Prevention Programs***

Several federal agencies highlight particular curriculum-based prevention programs that they deem promising or exemplary in helping prevent student substance use. (Appendices B and C) Although many of these programs teach students about the risks of drug use and provide students with skills to help them resist social pressures, few, if any, have proven effective in reducing student substance use over the long-term. Examples of key curriculum programs are:

**Life Skills Training (LST).** Originally developed in 1979 as a smoking prevention program, LST has been revised to include

alcohol and marijuana use as well. LST has been cited as one of nine “exemplary” drug abuse prevention programs by the U.S. Department of Education. The curriculum addresses a wide range of risk and protective factors by teaching general personal and social skills in combination with drug resistance skills and normative education to middle school students. The curriculum is designed to be delivered by teachers, peer leaders or health professionals. The curriculum’s five major components target risk factors related to students and their peer groups and include:

- Training in decision-making, coping and social skills, including resisting peer pressure;
- A self-improvement project designed to provide students with techniques for changing behaviors;
- Information on current prevalence rates of substance use (i.e., normative education);
- Information on short- and long-term consequences of substance use;
- Information on social acceptability of substance use and the process of becoming dependent on tobacco, alcohol and marijuana;
- Lessons on violence prevention.

Twelve major evaluation studies of LST have been conducted by the curriculum developer over the past 20 years using a variety of providers and populations.<sup>49</sup> The developer’s studies find reductions in tobacco, alcohol and marijuana use of 50 to 75 percent lasting up to six years.

**Project ALERT.** Project ALERT is a two-year drug prevention curriculum program delivered by trained teachers and designed for middle school students. Project ALERT, also cited as one of nine “exemplary” drug abuse prevention programs by the U.S. Department of Education, is based on the social influence model, which

targets adolescent drug-use beliefs and resistance skills. The lessons focus on helping students establish nondrug use norms, develop reasons not to use drugs and resist pro-drug pressures. The goal of the curriculum is to motivate and teach resistance skills by helping students:

- Understand the consequences of using drugs;
- Establish school-wide norms against use;
- Recognize that most people do not use drugs;
- Identify pro-drug pressures;
- Learn to counter advertising appeals;
- Communicate with parents;
- Support others in making non-use decisions;
- Recognize alternatives to substance use; and
- Learn how to quit.

In a multi-site evaluation in thirty ethnically and economically diverse schools over 15 months, seventh-grade students participating in the program who had not tried marijuana were 30 percent less likely than nonparticipants to have started using marijuana by the eighth grade. They also were nearly 50 percent less likely than nonparticipants to have become current marijuana users by the eighth grade.<sup>50</sup>

Among students already experimenting with tobacco at the beginning of the seventh grade, the program reduced current smoking by about 20 percent and weekly smoking by one third to one half 15 months later. For students identified as more confirmed smokers at the beginning of seventh grade, current smoking increased among Project ALERT participants compared to nonparticipants.<sup>51</sup>

Although students participating in the program demonstrated modest reductions in alcohol use

immediately after delivery of the seventh grade curriculum,<sup>52</sup> those early gains disappeared by the eighth grade. After students made the transition into high school and the program lessons were no longer delivered, the earlier effects on tobacco and marijuana use eroded as well.<sup>53</sup>

Recognizing that the early effects of the program were not holding over the long-term, the program expanded its approach in 1997 to high school students in South Dakota, which serves as the test site for assessing the effectiveness of the combined middle and high school program. The expanded program, known as ALERT Plus, adds booster lessons in an effort to maintain benefits of Project ALERT as students progress through grades nine and ten. RAND, the organization that designed and evaluated Project ALERT, is administering the program under a \$4 million grant from the National Institute on Drug Abuse (NIDA).

#### **Project Towards No Tobacco Use (TNT).**

Project TNT is a school-based prevention program designed to delay the initiation and reduce the use of tobacco by middle school children. Designated an “exemplary” drug abuse prevention program by the U.S. Department of Education, the program is delivered by trained teachers in classroom settings. The components of the curriculum target risk factors related to students, their peer groups, the media and the environment. The curriculum:

- Provides information on tobacco-related addiction and disease;
- Attempts to correct perceived tobacco use prevalence estimates;
- Addresses media and advertising influences on youth tobacco use;
- Promotes strategies for advocating against tobacco use;
- Identifies methods for building self-esteem; and

- Teaches communication, refusal and coping skills.

The evaluation of the curriculum, conducted by its developer, revealed that students participating in TNT had a 26 percent reduction in initiation of cigarette smoking compared to nonparticipants over two years of follow-up.<sup>54</sup> Similar results were found for the use of smokeless tobacco. The developer’s evaluation reported a 60 percent reduction in weekly or more frequent tobacco use for students in the program.<sup>55</sup>

#### **Drug Abuse Resistance Education (D.A.R.E.).**

Perhaps the most well known and widely used school-based prevention curriculum is *Drug Abuse Resistance Education (D.A.R.E.)*.<sup>56</sup> Uniformed police officers deliver program curricula aimed at children in grades K through 12, although the program is most often implemented in the fifth and sixth grades.<sup>57</sup> A teacher, who is usually present in the classroom during the police officers’ delivery of the curriculum, is expected to reinforce the D.A.R.E. material by integrating its objectives into the general curriculum for the particular grade level. D.A.R.E. programs have been implemented in schools in 50 to 80 percent of U.S. school districts.<sup>58</sup>

D.A.R.E. seeks to educate students about the effects of drug abuse, build decision-making and problem solving skills, teach strategies to help students make informed decisions and resist drug use, peer pressure and violence, and provide students with alternatives to drug use. The program recently broadened its focus to encompass programs for parent education and after-school recreation and learning. The curriculum focuses on knowledge and skill development in seven areas:

- Cognitive information;
- Recognizing pressures;
- Refusal skills;
- Consequential thinking and risk taking;

- Interpersonal and communication skills;
- Decision-making;
- Positive alternatives to drug use.

Despite the pervasiveness and longevity of the program, the significant amount of money that has been spent on D.A.R.E. and recent efforts to expand the program to include parent education and after-school activities, recent independent evaluations reveal little, if any, effect in reducing substance use.<sup>59</sup> These independent evaluations find students subjected to Project D.A.R.E. show no greater improvements in the measured outcomes (e.g., actual drug use, attitudes about drug use and self-esteem) than those not receiving the program. The authors of one independent evaluation study concluded that “there appear to be no reliable short-term, long-term, early adolescent, or young adult positive outcomes associated with receiving the D.A.R.E. intervention.”<sup>60</sup>

Several school districts have responded by discontinuing the program in their schools. Recently, in an effort to salvage the D.A.R.E. distribution system and network, The Robert Wood Johnson Foundation has provided a \$13.7 million grant to the University of Akron to develop a curriculum based on the latest prevention research that will be tested in six U.S. cities that have D.A.R.E. programs in place.

*Parent education programs about drug use are poorly attended. Often the parents who don't need to be there are the ones who show up.*

--School Staff Member  
CASA Focus Group

## Federal Efforts to Improve Effectiveness of Prevention Programs

The Safe and Drug-Free Schools and Communities Act (SDFSC) requires schools that receive funding to adopt and carry out comprehensive drug and violence prevention programs, including activities to promote involvement of parents and community groups and agencies. Because the requirements for receiving and using these funds are so loosely defined, there is little consistency across districts, counties or states in regard to how these funds are used. This inconsistency makes it difficult, if not impossible, to evaluate the effectiveness of the Safe and Drug-Free Schools program in reducing student substance use nationwide.

In July of 1998, in order to strengthen the quality of drug and violence prevention programs implemented with SDFSC funds, the U.S. Department of Education established four Principles of Effectiveness for all grant recipients.<sup>61</sup>

Soon after, the Department of Education funded a study to provide a baseline for gauging progress on the implementation of these Principles. The study found, among other things, that in selecting prevention activities, only 58 percent of districts considered research on the effectiveness of those activities and only 35 percent of districts defined research-based prevention in a way that is as rigorous as the definition provided by the Department of Education.<sup>62</sup>

One promising initiative for using SDFSC funds effectively for prevention is the Middle School Prevention and School Safety Program Coordinator Initiative which funds schools to hire and train full-time coordinators to oversee implementation of substance use prevention programs for middle school students. The presence of a full-time prevention program coordinator can positively influence both the development of programs and teacher motivation to implement a program

curriculum.<sup>63</sup> Active program coordination led to program stability and careful planning and assessment activities. Part-time coordinators had not been found to yield such results.<sup>64</sup>

### **The Principles of Effectiveness**

- A grant recipient shall base programs on a thorough assessment of objective data about the drug and violence problems in the schools and communities served.
- A grant recipient shall, with the assistance of a local or regional advisory council, establish a set of measurable goals and objectives, and design programs to meet those goals and objectives.
- A grant recipient shall design and implement activities based on research or evaluation that provides evidence that the strategies used to prevent or reduce drug use, violence or disruptive behavior among youth are effective.
- A grant recipient shall evaluate its program periodically to assess progress toward achieving its goals and objectives and use its evaluation results to refine, improve and strengthen its program and/or its goals and objectives.

### **Limited Counseling and Assistance Available**

Only 36 percent of public schools and 14.4 percent of private schools say they offer any form of substance abuse counseling.<sup>65</sup> Such counseling is often provided through school-based and linked health service programs.<sup>66</sup> By 1998, there were 1,157 school-based health centers across the country. Most (63 percent) of them were in urban schools.<sup>67</sup> Over 60 percent of school-linked health centers provide counseling services specifically related to substance abuse; 86 percent offer some form of counseling. Between 40 and 60 percent of school-linked health centers report collaborating with school staff on substance abuse and health education services.<sup>68</sup>

Although only 9.5 percent of the 16,000<sup>69</sup> public school districts the United States offer standardized Student Assistance Programs (SAPs),<sup>70</sup> such programs are the most common approach to deal with adolescent substance abuse.<sup>71</sup> SAPs--the rough equivalent of Employee Assistance Programs--are school-based interventions that provide students with information and support for a variety of problems, including those associated with alcohol or drug abuse. Other problems frequently addressed by SAPs include preventing depression and suicide, improving academic performance, coping with parental divorce and separation and reducing teen pregnancy.<sup>72</sup>

Although few schools have adopted formal models of Student Assistance Programs, many schools do have trained staff members who perform key student support functions of a more official SAP, including early identification of student problems, assessment of students' needs, provision of in-school counseling and support services, referrals to outside agencies and follow up care.<sup>73</sup> Children of substance abusers are included in the high-risk groups eligible to receive SAP services.<sup>74</sup>

A number of recent studies have found that fewer students reported substance use after participating in SAPs.<sup>75</sup> However, because school SAPs often do not incorporate all the elements of a particular model program, but rather utilize existing resources to provide necessary support services to students, it is difficult to conduct effective evaluations of these school-based programs.

### **Peer Efforts to Prevent and Curb Use**

Students themselves bear responsibility for reducing their own and their classmates' substance use. Some programs take advantage of the influence students can have over one another and attempt to convert negative peer pressure into beneficial peer pressure.



Peer education programs provide information, challenge incorrect attitudes, confront unhealthy behavior and refer students to professional help if needed. These programs can help to create positive social norms and disabuse students of inaccurate and often exaggerated claims regarding the prevalence of substance use among their peers.

One strategy for attaining drug-free schools has been to create a pledge system whereby students commit to remain drug free for a designated period of time. CASA's *1996 National Survey of Teens and Their Parents* found that an overwhelming 84 percent of students report that they would be willing to join other students in making a pledge not to smoke, drink or use drugs at school.<sup>76</sup>

The town of Cody, Wyoming has come up with a unique way of helping to prevent student substance use. The Cody Change Attitudes Now (Cody CAN) program, which is run by students, uses positive peer pressure and accountability to encourage students to remain drug free.<sup>77</sup> To become a member of the program, students must sign a contract pledging to remain drug free.

The program provides access to high-end computers and software to all students who become members of the program. In addition, members receive discounts to more than 25 local businesses, which helps involve community businesses in the prevention effort. Membership in CAN sends the message that a person is rewarded for choosing to be drug free. The philosophy behind it is unique in that instead of being a reactive program, in which teens are told to say "no" to drugs, this type of program provides children with positive alternatives to drugs as well as positive peer influences.

One school in Texas formed student committees to develop a drug-prevention program called Student Alternatives to Substance Abuse.<sup>78</sup> Students who sign pledges not to use drugs are not tested for drug use and their written promises are based on the honor system. In return for remaining loyal to their pledges, middle school students are rewarded with dances

and other social activities--all conducted in a drug-free environment.

Although programs that encourage students to pledge to be drug free draw attention to the issue of youth substance abuse and raise awareness of the problem, little information--and no independent evaluation--is available about the effectiveness of these programs in reducing substance use.

## **Lack of Community Involvement in Preventing and Reducing Student Substance Use**

Communities can help reduce substance use among youth by enforcing laws governing distribution, sale and possession; enacting local policing practices; and providing opportunities for teens to be positively engaged in the community. Collaborative community efforts to enhance the safety of the neighborhood, educate residents about drug use and provide students with alternatives to drug use can go a long way toward helping reduce student substance use.

Examples of initiatives exist, but none operate on a significant scale. Kansas City is one example, recently forming a Community Epidemiology Work Group involving police, schools, drug courts, hospitals, mental health agencies and the National Institute on Drug Abuse (NIDA) as a model collaborative initiative to gather and disseminate accurate information to the community about local drug problems. This kind of a collaboration is important to better coordinate community-wide drug prevention, including those prevention activities that are school-based.

### ***After-School and Mentorship Programs***

Quality after-school programs and recreational activities can provide safe, engaging environments that motivate and inspire learning as well. After-school programs can help combat negative peer influences, strengthen students' academic achievement and provide students with engaging activities that make drug use less attractive.

During FY 1999, the federal government allocated \$200 million dollars for after-school programming through the 21<sup>st</sup> Century Community Learning Centers Program.<sup>†</sup> The types of activities common to after-school programs include, but are not limited to, tutoring in basic school subjects, drug and violence prevention curricula and counseling, youth leadership activities, volunteer and community service opportunities and supervised recreation and athletic programs and events.<sup>79</sup>

Communities that offer mentorship programs allow students to spend time with positive role models who can help them to remain drug free. *Big Brothers/Big Sisters of America* works in partnership with schools to pair adult mentors with youth from single parent families. In a recent evaluation of the program, mentored youth were 27 percent less likely to begin using alcohol than similar youth without a mentoring relationship.<sup>80</sup>

### ***Community-Based Prevention Programs***

Several schools partner with communities to offer special prevention and treatment services to students at risk.

One such program, *CASASTART (Striving Together to Achieve Rewarding Tomorrows)* is a comprehensive neighborhood-based, school-centered program developed by CASA to prevent substance abuse and delinquency among high-risk eight- to 13-year old students and to reduce drug-related crime in their neighborhoods. CASASTART brings together under one roof various organizations including schools, health and social service agencies and police, and provides participants with mentors for the common purpose of helping keep at-risk youth drug and violence free. The roof may be the Mayor's office, a church organization, the school or a community group. CASASTART combines a youth development framework and an intensive case management method to deliver an eight-component service menu to children and their families. The program works with

substance-abusing parents and siblings of youth participants.

Potentially eligible children are referred to CASASTART case managers by school, social service staff, police or juvenile court personnel. Case managers then determine whether children are at high risk for substance abuse and crime. In addition to seeking out participants, developing case plans, counseling, coordinating services and making referrals, case managers become involved in a full range of activities including:

- Running after-school or recreation programs;
- Arranging for and transporting family members to appointments;
- Helping prevent homelessness or utility shut-offs;
- Advocating for children and family members with administrative agencies and in court; and
- Helping parents resolve problems with schools or social service agencies.

The Urban Institute, under contract with CASA and the National Institute of Justice, conducted an independent impact analysis of the CASASTART parent program, then called *Children at Risk*.<sup>81</sup> The evaluation demonstrated that compared to a control group, program participants were significantly less likely to use tobacco, alcohol and other illicit drugs, to report past month or lifetime involvement in drug trafficking, to engage in violent offenses or associate with delinquent peers. Academic performance increased as program participants were more likely to be promoted to the next grade in school and to report higher levels of positive peer influence.

CASASTART is now serving hundreds of high-risk youth, their families and neighborhoods in cities across the nation and continues to grow. Currently in 19 sites around the country (Appendix B), The U.S. Department of

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<sup>†</sup> Title X, Part 1 of the Elementary and Secondary Education Act.

Education (DOE) Expert Panel on Safe, Disciplined and Drug-Free Schools recently designated CASASTART a model program.

Another school-based program that involves families in the community, the *Iowa Strengthening Families Program*, is designed for families of children ages six through 11 who are at risk of substance abuse. The program focuses on the family and its values, and no drug use expectations. The program claims 30 to 60 percent reductions among students participating in the program compared to nonparticipants in alcohol use, using alcohol without parents' permission and being drunk.<sup>82</sup> The Center for Substance Abuse Prevention (CSAP) identified this program as a model program.

*Communities Mobilizing for Change on Alcohol* (CMCA), developed by the University of Minnesota School of Public Health, activates community members to achieve changes regarding alcohol in local public policies and in practices of major community institutions, such as law enforcement agencies, licensing departments, community event groups, civic groups, houses of worship, schools and local media. Its goal is to reduce the flow of alcohol to young people from illegal sales by retail establishments and from provision of alcohol to youth by adults in the community.

An evaluation by the developers of the program found that increased age identification checks by alcohol retailers reduced purchasing of alcohol, drinking, frequenting of bars, and provision of alcohol to other adolescents by 18- to 20-year-olds. The program demonstrated little effect on alcohol consumption among younger adolescents. The Center for Substance Abuse Prevention (CSAP) identified this program as a model program.



## Chapter VI

### What Would It Take?

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There is an enormous discrepancy between the numerous risk factors for youth substance use and the few that can be targeted by the most promising prevention curriculum programs and zero-tolerance policies. Even such programs that transmit the intended information to students and help to build certain beneficial personal skills or remove students with substance problems from schools are able to address only a limited number of risk factors for youth substance use. Because they cannot address all the risks posed to students by parents, a poor school environment or the community, parents, teachers and students must not rely on zero-tolerance approaches and curriculum programs as silver bullets to reduce student substance use. Table 6.1 illustrates the limits of curriculum programs. Schools can do much more to prevent student substance abuse, but they cannot do it all or alone.

#### **Parents Hold Primary Responsibility for Prevention**

Parents are the single most important influence on children's decision to smoke, drink or use drugs, yet many parents do not fully understand the extent of their influence.<sup>1</sup> Parents' involvement in their children's education can catalyze student learning, increase the odds of student academic success and reduce the risk of student substance use.<sup>2</sup>

A large body of research clearly indicates that a good parent-child relationship and parental monitoring of children's behaviors reduce the risk of youth substance use.<sup>3</sup> CASA's research indicates that parental presence in the home before and after school, during dinner and at bedtime and parental involvement in student schoolwork help students stay away from cigarettes, alcohol and drugs.<sup>4</sup> Families that eat together, communicate well and pray together are the most likely to have substance-free children.<sup>5</sup>

Table 6.1

**Risk Factors Commonly Targeted (v)--and NOT Targeted--by Major Prevention Curricula**

Signals of Risk <sup>6</sup> in:	Factors Commonly Addressed by Major Prevention Curricula <sup>7</sup>
<b>Schools</b>	
Tobacco, alcohol and drugs available at school	v
Parents not engaged by schools in their child's education	
Mixed or inconsistent messages about substance use	
Low student attachment to school	
Teachers and administrators who smoke at school	
Low or inconsistent expectations for student behavior	
<b>Students</b>	
Poor academic performance	
Current substance use	
Low self-esteem	v
Depression or anxiety	
Learning or conduct disorders (e.g., ADHD) or eating disorders	
Sensation seeking, impulsivity	
Discipline problems (e.g., theft, truancy)	
Early sexual activity	
Poor coping skills	v
Frequent mobility from school to school	
Low perceptions of risk or harm of substance use	v
Inaccurate or limited knowledge about effects of substance use	v
<b>Family</b>	
Prenatal exposure to tobacco, alcohol or drugs	
Family history of substance use	
Tobacco or drug use and alcohol abuse in the family	
Parental mental health problems	
Poor parent/child communication	
Low parental monitoring and support	
Little quality time spent with children	
Low parental affection	
Family conflict	
<b>Peers</b>	
Low ability to resist peer pressure	v
Inaccurate perception of substance use among peers	v
Relationships with peers who take risks and are involved in other problem behaviors	v
Desire to be accepted into a peer group; need to fit in, be "cool"	v
<b>Communities</b>	
Easy availability of tobacco, alcohol and drugs to youth	
Community tolerance for youth tobacco, alcohol and drug use	
High crime rates	
Few after-school activities	
High levels of neighborhood trash, grime and disrepair	

Unfortunately, many students do not benefit from the critical protective role that parents can provide. Many parents are uninformed or in denial about the extent of substance use among their children. Many parents shirk their primary responsibility of ensuring that their children are substance free and look to schools to deal with any problems. More than one-third (36 percent) of students say that their parents never discussed the risks of substance use with them.<sup>8</sup>

Parents may not realize how important these conversations are in helping to prevent their children's substance use.<sup>9</sup> Too often, parents resign themselves to the belief that their children will use substances regardless of what they say or do.<sup>10</sup> Twenty-five percent of parents report that they have little influence over their middle and high school students' decisions to use or abstain from substances.<sup>11</sup> In fact, 42 percent of students who do not use marijuana cite their parents, most often their mothers, as the most important influence in their not using it.<sup>12</sup>

Too many children live in families with "hands-off" parents. According to CASA's *National Survey of American Attitudes on Substance Abuse VI: Teens*, when parents are "hands-on"--meaning they are engaged in their children's lives, supervise their teenagers and impose rules or standards of behavior--their teenagers are four times less likely to engage in substance abuse than teens from "hands-off" households.<sup>13</sup> The more often parents have dinner with their teens, for example, the less likely they are to smoke, drink or use drugs.

Teens with "hands-on" parents, who monitor their television viewing, Internet usage, or CD purchases are at half the risk of substance abuse as those whose parents do not monitor these activities.<sup>14</sup> Teens whose parents know where their children are after school and on weekends, and who expect their children to tell them where they are going, are at half the risk of substance abuse as teens with parents who do not monitor their behaviors.<sup>15</sup> Teens whose parents are "very aware" of how their teen is doing in school are at about one-third the substance abuse risk as teens with unaware parents.<sup>16</sup> Teens who believe their parents would be "extremely upset" if they were

to use marijuana are at one-third the risk of teens who say their parents would "not be too upset."<sup>17</sup>

Parents press for better schools, higher academic standards and quality education. Some have lobbied hard to pass legislation allowing their children to go to charter schools or receive school vouchers for parochial schools. Parents of children in private schools spend thousands of dollars each year to ensure that their children are well prepared and well situated for acceptance into the top colleges in the country. Yet 61 percent of parents say their teens' school is not drug free.<sup>18</sup> If parents understood the impact of substance abuse on academic achievement and demonstrated that concern to schools in a similar manner, schools would be more likely to heed their wishes and do everything in their power to ensure that their schools are drug free.

Even parents who are involved in their children's lives during the early years too often reduce their involvement as their children grow up. Parent-teacher-student organizations, which often are poorly attended particularly beyond the elementary school years, could be important vehicles for mobilizing support for substance-free schools and students. Parent power is key to preventing and reducing substance use and abuse yet too many parents neglect to exercise this power.

## Schools Are Next in Line

While substance use and abuse wreck havoc with the ability of schools to accomplish the task of education, school administrators and staff are not sure about what more they can do. Few school staff members are trained in recognizing and responding to substance abuse and addiction. Frustrated and overburdened with the many responsibilities schools carry, many schools end up turning to prepackaged prevention curricula--many with no proven effectiveness--and rarely implement those that do show promise in ways true to the original design. The nature and quality of the school environment and students' attitudes toward their school are among the most important factors related to student substance use and other problem behaviors.<sup>19</sup> Despite this,

most administrators, teachers and other school staff focus their prevention efforts on individual, narrowly tailored drug prevention programs.

### ***A Supportive School Environment Reduces the Risk of Substance Use and Abuse***

Features of the school environment--school structure and policies, academic goals, curricula, teacher qualifications and attitudes, administrative support, level of parental and community involvement, availability of extracurricular activities and the general characteristics of the student population--influence substance use among students.<sup>20</sup>

*You look at the problems of academic underperformance, the problems with violence, the problems with drugs. They are rooted in the same causes.*<sup>22</sup>

--Paul Vallas, CEO  
Chicago Public School System  
CASACONFERENCE:  
*Substance Abuse in the 21<sup>st</sup> Century:  
Positioning the Nation for Progress*

A school environment that helps reduce the risk of student substance use is one that encourages student attachment to school, provides clear and consistent expectations for student behavior, imparts sound societal values, offers more individual attention within smaller schools, helps coordinate support services for students and their families and insists on parental involvement in students' education. Substance abuse prevention curriculum is an important but by no means sufficient element of this equation.

A school environment that encourages students to set high, yet attainable, academic goals will encourage students to avoid substance use that interferes with the attainment of these goals. One that encourages students to become involved in extracurricular activities not only provides the opportunity for youth to broaden their interests and enrich their lives, but also helps reduce key risk factors for substance use--boredom, delinquency and low self-esteem.<sup>21</sup> The way students perceive their own abilities and talents

could affect the school environment, for example, by influencing the level of enthusiasm and general morale of the student body.

CASA has learned from numerous focus groups conducted with middle and high school students that students feel enormous pressure to succeed in school and many describe substance use as a means of relieving some of the stress associated with this pressure. Schools must be aware of the pressure students feel and teach them alternative means of stress management that do not involve self-medication.

### ***Student Attachment to School Reduces Risk***

Students who feel attached or connected to school--their teachers and classmates--use cigarettes, alcohol and marijuana less frequently than students who do not feel connected to their school.<sup>23</sup> Feeling connected to school is related to positive student-staff interactions,\* positive inter-student relationships and a sense of student empowerment.<sup>24</sup> As early as elementary school, students in schools characterized by low student attachment to school report higher levels of availability and acceptability of alcohol and cigarettes in school than students in schools characterized by relatively higher levels of student attachment.<sup>25</sup>

Students who develop a positive bond with their school are more likely to perform well academically and refrain from misconduct and other antisocial behavior.<sup>26</sup> Students who like their classes, have good peer relations and accept their school's mission and values are more likely to feel attached to their school.<sup>27</sup> Participation in academic and extracurricular activities increases bonding by allowing students to realize their potential and enjoy the opportunity to affiliate with peers and teachers who share their interests.<sup>28</sup> One study found that students in higher grades reported liking school less and having a less favorable evaluation of their school's general environment compared to students in lower grades, suggesting that student

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\* Including teachers, coaches, cafeteria workers, bus drivers, custodial workers, office staff and administrators.

bonding must be fostered early and consistently throughout a student's academic career.<sup>29</sup>

This year and for each remaining year of this decade, 19 percent of all teachers, 15 percent of all superintendents and 16 percent of all administrators will be new to their schools or districts.<sup>30</sup> This high turnover complicates the problem of developing strong student attachment to teachers and schools.

### ***Clear and Consistent School Expectations for Student Behavior Reduce Risk***

Clear and consistent expectations for student behavior, particularly with regard to substance use, are critical for decreasing the likelihood that students will bring drugs to school, use drugs in school or urge their friends to use drugs. Schools that provide clear and consistent expectations for student behavior, high levels of student attachment to schools and clear messages about the unacceptability of alcohol, tobacco and drug use are likely to witness improvements in students' academic performance and reductions in the risk of student substance use.

Most schools provide no use messages to youth through posters hung up in classrooms and hallways, through assemblies and through specific curricula primarily targeted to middle school children. Few schools provide consistent and carefully tailored no use messages beginning in preschool and continuing through twelfth grade or assure that these messages increase in sophistication as the children age. Even fewer schools tailor the messages to be gender and culture specific.

*Our school doesn't allow smoking within two blocks of the school. So all the students go to the park two blocks away to smoke and end up seeing all their teachers there doing the same thing.*

--Student  
CASA Focus Group

## **Keeping Students Off Substances**

### ***Student Perspective***

- The behavior of friends is a strong influence on personal choices to use drugs.
- Student access to information/helping resources is limited.
- Whether students seek support from school counselors, teachers or administrators depends in large part on the perceived confidentiality of the interactions.
- Substance use prevention curricula are often repetitive across grade levels and do not vary enough by grade level.
- High school is too late to influence drug choices.
- Having information about drugs does not necessarily change behavior ("kids will do it anyway").
- Knowledge of personal experiences with drugs is an important deterrent to use.
- Alcohol is considered a less risky alternative to drugs.
- Stress is seen as a major concern of students and substance use is perceived as a stress reliever.

### ***School Staff Perspective***

- Parents should be held responsible for educating their children about drugs.
- Parents expect schools to handle drug issues.
- Parent education regarding drugs is viewed as an important need.
- High school is too late to begin drug education.
- Schools often develop their own substance use prevention curricula.
- Schools have difficulty finding curriculum materials.
- Giving teachers the responsibility of administering drug curricula is problematic because there is limited time in the school schedule.
- The faculty needs to be trained in the warning signs of drug abuse in students.
- Finding quality treatment services in the community is a problem.

--CASA Focus Groups



Clear and consistent messages pertain not only to what students are taught in classrooms and actions taken against students who violate drug-related policies, but the examples set by teachers and other school staff. For example, allowing school personnel to smoke right outside the school building sets a poor example for students and diminishes the power of school faculty to relay convincingly anti-substance use messages to students. Permitting staff members to smoke on school premises or just beyond the boundaries of the drug-free school zone sends mixed messages to students.

### ***Paying Attention to Student Problems Can Make a Difference***

Paying special attention to the needs of children at risk, including those with learning disorders, eating disorders or discipline problems, those who become sexually active at an early age, those suffering from depression or anxiety, those showing poor academic performance and poor coping skills and those who move often is key to identify and intervene early in student problem behavior.

*The Family Academy in New York combines a nationally acclaimed academic curriculum with a longer school day and year, and a wide array of social and health sciences to ensure that students are ready and able to learn. Each component is considered necessary, but no single component is considered sufficient.<sup>31</sup>*

Because of their extensive contact with students, schools are in a unique position to provide early identification, assessment, referral and follow-up to students in need of support services. These services can include substance-abuse treatment programs, mental health services, counseling, teen pregnancy programs, dropout prevention, health care, child-abuse programs, gang-diversion programs, conflict resolution programs, literacy training, tutoring and remedial education, and mentoring.<sup>32</sup> Unfortunately, early identification, assessment, referral, follow-up and support services often are available only to those with the most severe problems.<sup>33</sup>

Clearly, schools are not in the business of providing students with actual treatment and other social services. However, after families, schools are the epicenter of a child's life and therefore bear a shared responsibility with families and communities to guide students toward needed services and help ensure that those services are obtained.

### ***Paying Attention to Key Moments in A Student's Life Can Make a Difference***

Key times in students' lives when student risk for substance use increases are transitions between levels of schooling and family relocations.

Following the transition from elementary to middle school and from middle to high school, students report less positive relationships with their teachers<sup>34</sup> and marked increases in substance use.<sup>35</sup> Schools that help students move through these transitions by planning alcohol-free social activities and mediating student conflict have reduced student rates of substance use.<sup>36</sup>

Students in families that move to other cities or locations requiring a change of school are at greater risk of substance abuse. Promoting school attachment can be difficult in schools where there is a high rate of student attrition due to family mobility. But the need to reach these students is dire. Schools need to engage aggressively to connect with these students in a positive way.

### ***Schools that Involve Parents in Their Children's Education Reduce Risk***

Schools that succeed in engaging parents as partners in their fight against student substance use are more likely to see academic success among students and students who are substance free.<sup>37</sup> Schools that involve parents in their children's education by encouraging or even requiring parental participation in students' homework assignments and studying not only help students achieve better academic performance, but help enhance the parent-child relationship as well.<sup>38</sup>

School efforts to encourage parents to participate in their children's learning and encourage their active involvement in preventing their children's substance use can include collaboration with community partners to provide parent and family resource centers in schools, parent education programs with a focus on healthy child development and ways to talk to children about drugs, and family management skills training programs. Schools can insist on parental involvement in parent-teacher-student conferences, determining school substance abuse policies, signing contracts about observance of these policies, or decisions regarding the adoption and implementation of prevention programs.

Schools can help inform parents about the danger of tobacco, alcohol and drugs, the symptoms of teen substance use and abuse, the prevalence of such use among children and the critical role parents play in their children's substance-related attitudes and behaviors from birth through the teen years.

Involving parents is often a frustrating task for schools. Many teachers, principals, coaches and other school staff recognize the difficulty of getting parents to find out if their children are using drugs or admit that their children might be using drugs.

### ***Staff Training is Critical***

School staff members work with students on a daily basis. The extent of substance use and abuse in our schools is profound, yet most staff members are not trained in teacher education or in-service programs to recognize the signs of substance abuse and to know how to respond appropriately to assure that the student receives the necessary counseling and treatment.

*The faculty needs training in the warning signs of drug abuse in students.*

--School Staff Member  
CASA Focus Group

### ***Smaller School Size Reduces Risk***

Smaller schools are associated with improvements in student achievement and greater participation in extracurricular activities--two school factors that protect against student substance use.<sup>39</sup> Studies conducted in Philadelphia concluded that students in small schools were more likely than those in large schools to pass major subjects.<sup>40</sup> A study in New Jersey demonstrated that school size has more of an influence on student achievement than on any other factor controllable by educators.<sup>41</sup> A study in Alaska found that disadvantaged students in small schools outperformed those in larger schools on standardized tests of basic skill.<sup>42</sup>

The success of small schools contributes to more satisfied students, more committed teachers and to a better school-student and school-family match.<sup>43</sup> Schools that are too large engender a sense of anonymity and limit the ability of faculty to closely supervise student behaviors--two ingredients that increase the risk for student substance use. Smaller schools enhance student-school bonding, which increases the likelihood that the school will serve as a positive influence on student behavior and help to limit student substance use.

### ***Strong and Supportive Peer Groups Can Resist Negative Peer Pressures***

Students can play a significant role in encouraging their peers to develop responsible attitudes and behaviors toward substance use. Peer counseling is one promising practice for reducing student substance use. Schools can develop programs to train students to be counselors, conflict mediators and educators to help students with problems related to stress, poor coping skills and low self-esteem--all of which contribute to substance use.

The campaign against drunk driving, *Friends Don't Let Friends Drive Drunk*, appears to have been helpful in making the concept of designated drivers commonplace at parties and social gatherings.<sup>44</sup> If a youth can come to feel responsible for preventing a friend from drinking

and driving out of concern for his or her physical well being, teens also might learn to accept responsibility for preventing their friends from harming themselves by smoking, drinking or using drugs.

### ***School Reform Measures Can Help Reduce Substance Abuse***

Increasing concern with academic performance has led educators to look for ways to improve our nation's schools. For example, a main goal of school reform efforts is to create a school environment that emphasizes the intellectual quality of student work, sets high academic standards, creates learning communities that encourage intellectual quality, prepares students for adult roles and makes health and safety a central concern of education.<sup>45</sup> These elements of an improved school environment also hold promise for addressing more effectively the problem of student substance use.

Supportive educational environments for students are associated with increased student respect for teachers and improved student attitudes towards school.<sup>46</sup> Students in elementary schools that have been restructured to improve the school environment report less substance use than students in schools that have not been involved in similar school reform.<sup>47</sup> Some of these effects are long lasting. At age 18, students who have been exposed to this type of improved school environment report less frequent heavy alcohol use than students in schools that have continued to function according to more traditional models.<sup>48</sup>

Some education professionals have advocated for including formal programs of "character education" or "moral education" into the classroom so that schools can begin to broaden their focus from academics alone to academics mixed with the personal development of every student.<sup>49</sup> Ten states now mandate some form of character education.<sup>50</sup> Most definitions of character education focus on the intentional and strategic teaching of mores and values. Some researchers have argued that improving the conduct of American youth through character-building programs will help to reverse the rise of

a variety of social problems including substance abuse as well as improve students' academic achievement.<sup>51</sup> Research on the effectiveness of such programs is inconclusive at best. However, few would argue that there is some merit to having schools partner with parents and communities to help students develop strong values, either through formal educational programs or less structured means.

### **Partnering with the Community to Offer Support Reduces Risk**

Schools are not isolated from their communities. Students, faculty and staff are comprised of members of the surrounding community who all have an interest in ensuring that the children of the community are healthy and drug free. By teaming with community agencies, a broader range of services can be offered to students with a variety of problems that can affect their health and their academic performance.<sup>52</sup>

By linking students and their families to a host of community services, schools can help students receive the services they need to complement and support their education. However, their ability to do so often is constrained by the limited availability of such services in the community. Communities often lack in affordable, accessible and quality treatment services for youth.<sup>53</sup> Schools and school personnel that are willing to help a student in need often face limited options in getting students appropriate services. To the extent that schools are responsible for helping ensure that students with substance use problems receive treatment, communities and government agencies bear the primary responsibility of assuring that effective, age-appropriate and affordable services are available to those who need it.

### ***Community Partners Can Help Restrict Youth Access to Tobacco and Alcohol***

Community-wide initiatives and commitment from retailers and law enforcement to restrict access to tobacco and alcohol among school-aged youth have proven effective in reducing

smoking and drinking among students. This kind of approach is especially effective with younger students.<sup>54</sup>

On June 28, 2001, the Supreme Court ruled that states do not have the power to restrict tobacco advertising in the zones around schools and public parks beyond limitations set by federal law. Despite this decision, communities can still work together with businesses to ensure that tobacco and alcohol advertisements are not directed to youth, that sales of tobacco or alcohol products around schools be prohibited and that such prohibitions are well enforced.

***Strong Working Relationships With Community Agencies Can Help Assure That Students Receive Needed Treatment***

An essential component of keeping schools substance free is assuring that students receive the treatment they need for substance abuse problems. Schools cannot be expected to provide treatment; however, by recognizing that treatment is often necessary if students are to meet educational goals, schools may be more likely to form alliances with community agencies to assure availability of effective treatment.

Even when parents, schools and students are willing to take responsibility for finding help for children in need, they face a dismal shortage of effective treatment options for youth.<sup>55</sup> In 1999, 5.7 percent (1.3 million) of youth 12- to 17-years of age were dependent on alcohol or illegal drug.<sup>56</sup> Only about 23 percent of them--296,000--received any form of treatment in the past 12 months for drug or alcohol abuse,<sup>57</sup> leaving a gap of some one million 12- to 17-year olds in need of treatment.<sup>58</sup>

Existing treatment programs primarily are based on adult models and do not conform to research-based evidence regarding what works best for treating young people.<sup>59</sup> Furthermore, the treatment needs of youth vary considerably with age and co-occurring mental health problems.<sup>60</sup> Communities can help play an important role in improving the quality and accessibility of treatment services targeted to youth.

Even when treatment is available, parents, teachers and fellow students must take responsibility for helping to motivate students with substance abuse problems to get the treatment they need.





## Chapter VII

### Opportunities and Next Steps

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Making our schools substance free and preventing and reducing substance use among students is a monumental task. The schools simply cannot do it alone no matter how effective their curriculum programs or how well administered their zero-tolerance policies. It will take the school--teachers, administrators and other staff--the parents, the students themselves and the community.

CASA recommends a fundamental overhaul in the way parents, school administrators and staff, students and communities think about and confront the issues of substance abuse and addiction:

- Parents should demand that their children's schools be free of tobacco, alcohol and drugs and cooperate with schools when their own children face problems with substance use and abuse.
- Schools should substantially broaden their efforts to keep schools free of tobacco, alcohol and drugs and prevent and reduce substance use among students.
- Students need to take responsibility not to use substances themselves, to prevent substance use in schools and to help classmates who are using drugs.
- Community leaders should assume the role of active partner with the schools to assure that youth do not have access to tobacco, alcohol or drugs and that prevention, treatment and law enforcement resources are available.
- Government should expand funding for treatment and for prevention and treatment research. To the fullest extent consistent with the First Amendment, government should place restrictions on the advertising

of tobacco and alcohol products in media sources that are accessible and attractive to children.

## Next Steps

### *Focus on All Substance Abuse*

CASA recommends that parents, schools and communities strive to prevent all forms of substance abuse--not just illegal drug use. Substances of abuse are related to one another not only in terms of the statistical odds that a person who uses one substance is likelier to use others as well, but also in terms of their similar biological effects on the brain and the body. Each year, new substances of abuse come into vogue and prevention messages and information about risk must be promptly delivered about each substance.

Schools, in concert with parents, students and communities, should review their current approaches to prevention against the full range of factors directly linked to student substance use and abuse. Table 7.1 identifies the key factors that should be addressed in crafting broad-based prevention and intervention programs. Using this approach should help schools identify additional actions they can take themselves and areas of intervention more appropriate for collaborative efforts with families, students and communities.

CASA also identifies specific opportunities for schools, parents, communities and government:

### *Opportunities for Schools*

- Train all administrators, teachers, coaches, counselors, nurses and other school staff to spot the signs of substance abuse and know how to respond. Training should be provided through undergraduate and graduate education programs, in-service training and new staff orientation. State qualification exams should include questions about how to spot substance abuse and what to do when faced with it.

Table 7.1  
**Key Risk Factors to Address When Crafting Prevention Programs**

#### *Schools*

- v Tobacco, alcohol and drugs available at school
- v Parents not engaged by schools in their child's education
- v Mixed or inconsistent messages about substance use
- v Low student attachment to school
- v Teachers and administrators who smoke at school
- v Low or inconsistent expectations for student behavior
- v Few well-coordinated support services for students and their families
- v Transition from 5<sup>th</sup> to 6<sup>th</sup> grade and from 7<sup>th</sup> to 9<sup>th</sup> grade

#### *Students*

- v Poor academic performance
- v Current substance use
- v Low self-esteem
- v Depression or anxiety
- v Learning or conduct disorders (e.g., ADHD) or eating disorders
- v Sensation seeking, impulsivity
- v Discipline problems (e.g., theft, truancy)
- v Early sexual activity
- v Poor coping skills
- v Frequent mobility from school to school
- v Low perceptions of risk or harm of substance use
- v Inaccurate or limited knowledge about effects of substance use

#### *Family*

- v Prenatal exposure to tobacco, alcohol or drugs
- v Family history of substance use
- v Tobacco or drug use and alcohol abuse in the family
- v Parental mental health problems
- v Poor parent/child communication
- v Low parental monitoring and support
- v Little quality time spent with children
- v Low parental affection
- v Family conflict

#### *Peers*

- v Low ability to resist peer pressure
- v Inaccurate perception of substance use among peers
- v Relationship with peers who take risks and are involved in other problem behaviors
- v Desire to be accepted into a peer group; need to fit in, be "cool"

#### *Communities*

- v Easy availability of tobacco, alcohol and drugs to youth
- v Community tolerance for youth tobacco, alcohol and drug use
- v High crime rates
- v Few after-school activities
- v High levels of neighborhood trash, grime and disrepair

- Provide strong no-use messages every year from preschool through the twelfth grade, tailored to the age, culture and sophistication of the child. Intensify these messages at the transitions from elementary to middle school and from middle to high school when students are at increased risk for substance use. Schools should make every effort to incorporate these messages not only into specific prevention programs, but into health and other academic curricula and school-sponsored social settings.
- Develop strong and common sense substance use policies that:
  - Prohibit the possession, sale or use of cigarettes, alcohol, illegal and abused prescription drugs on school property or at school sponsored events.
  - Identify and enforce clear consequences for noncompliance that assure continued education and access to treatment, and employ graduated sanctions for noncompliance with a treatment plan or repeat infractions of school policies.
  - If school administrators determine that a student has been using tobacco, alcohol or other illicit drugs, the school should work with community agencies to arrange for proper assessment, referral, counseling, treatment and follow-up care. Schools should establish student and employee assistance programs to provide counseling for students and staff with substance abuse problems of their own or among their families and friends.
  - For students who voluntarily request help with a substance abuse problem, assure access to treatment and education without penalty.
  - If school administrators suspect that a student or staff member is under the influence of alcohol or drugs, the school should require testing.
- If school administrators suspect that a student or staff member has brought tobacco, alcohol or drugs onto school property, the school should conduct an unannounced search.
- Conduct pre-employment alcohol and drug testing for all school personnel and for-cause testing after employment.
- Improve and expand existing prevention and intervention programs:
  - Develop the capacity in each school to design and implement effective prevention and intervention efforts. Schools should develop the capacity to ensure that substance abuse prevention and intervention efforts are chosen on the basis of research-based evidence, implemented correctly, integrated into the school environment and instructional program and evaluated for their efficacy in reducing substance use among students in the school. Schools should abandon those programs that have no proven efficacy in reducing student substance use and replace them with programs or elements of programs that work. Prevention program messages should be delivered by people who have the greatest chance of influencing youth--such as health professionals, parents and peers, as well as teachers--and who have been appropriately trained.
  - Develop programs for high-risk students. Schools should offer targeted prevention and intervention services to youth at high risk for developing substance abuse problems, including children with learning disabilities and conduct disorders, who are failing or doing poorly in school, who have moved frequently, who are engaged with the juvenile justice system, who have parents with addiction problems, and who have co-occurring problems such as anxiety, depression and eating disorders.



- Create a school climate to:
  - Engage parents in each child's education. Teachers should communicate routinely with parents about the child's progress in school and any problems that he or she is encountering. Teachers and administrators should provide information to parents of day and evening hours when they are available to meet with them to respond to their concerns about their children's education.
  - Develop high levels of student attachment to schools. Schools should require and foster positive interactions between students and staff and cultivate a sense of student empowerment. They also should create varied opportunities for student participation in academic and extra-curricular activities.
  - Help students build supportive peer groups and resist negative peer pressures. Schools' curriculum programs should seek to help students provide support to each other to resist substance use and abuse and build skills to resist peer pressure.
  - Encourage students to report classmates who have substance abuse problems so they can be helped and classmates who deal drugs so that appropriate action can be taken.
- Expecting to be and are told the truth by their children about where they are going in the evenings or on weekends.
- Knowing where their children are after school and on weekends.
- Imposing a curfew.
- Being very aware of their children's academic performance.
- Monitoring what their children watch on television and do on the Internet.
- Putting restrictions on the music CDs their children buy.
- Talking to their children about tobacco, alcohol and drugs.
- Having children be responsible for regular household chores.
- Having an adult present when their children are home from school.
- Fighting for substance-free schools.

### *Opportunities for Communities*

- Community agencies, in partnership with schools, can establish confidential hotlines where parents and students can call for advice on how to handle substance abuse concerns and get help.
- Communities can create family resource centers in cooperation with schools that provide health, education and social service resources for parents.
- Local businesses can work with schools to create before and after school programs that provide mentoring and opportunities for youth to participate in academic, artistic, cultural and recreational programs.
- Local governments, neighborhood organizations, parents and local businesses

### *Opportunities for Parents*

- Parents should become hands-on parents by, for example:
  - Eating dinner with their children on most nights of the week--with the television off.
  - Making clear that they would be extremely upset if their children smoked, drank or used drugs.

can work together to improve the community environment.

- Local law enforcement agencies should step up enforcement of alcohol and tobacco laws related to youth.

### ***Opportunities for Federal and State Governments***

- Fund additional independent research and evaluation of what works to prevent and reduce substance use and abuse among children.
- Fund research on the development of treatment programs designed specifically to meet the needs of youth.
- Fund additional treatment services to close the one million child treatment gap.
- Strengthen and enforce laws prohibiting sales of cigarettes and alcohol products within the vicinity surrounding school boundaries.

Adopting federal legislation like the Drug Abuse Education, Prevention and Treatment Act of 2001(S304), introduced by Senators Orrin Hatch (R-UT), Mike DeWine (R-OH), Joseph Biden, Jr. (D-DE), Patrick Leahy (D-VT) and Strom Thurmond (R-SC), would help to expand needed treatment and prevention services.



## Chapter II

### Notes

- <sup>1</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>2</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>3</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>4</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>5</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>6</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>7</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>8</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>9</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>10</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997a).
- <sup>11</sup> Rountree, P. W., & Clayton, R. R. (1999); Allison, K. W., Crawford, I., Leone, P. E., Trickett, E., Perez-Febles, A., Burton, L. M., & Le Blanc, R. (1999); Ennett, S. T., Flewelling, R. L., Lindrooth, R. C., & Norton, E. C. (1997).
- <sup>12</sup> National Education Goals Panel. (1999).
- <sup>13</sup> Centers for Disease Control and Prevention. (2000b).
- <sup>14</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>15</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>16</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>17</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>18</sup> Centers for Disease Control and Prevention. (2000a). *Data from the 2000 Monitoring the Future (MTF) survey provide somewhat lower numbers, indicating that 23.3 percent of students smoke, 37.8 percent drink alcohol, 23.4 percent binge drink and 19.8 percent report current illicit drug use. The 1999 NHSDA, which provides the lowest rates of adolescent substance use finds that 15 percent currently smoke cigarettes, 18.6 percent currently drink, 10.9 percent binge drink and 10.9 percent are current users of an illicit drug.*
- <sup>19</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>20</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>21</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>22</sup> Richter, L., & Johnson, P. B. (2001 in press).
- <sup>23</sup> Figlio, D., & Ludwig, J. (2000); The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>24</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>25</sup> National Center for Education Statistics. (1996b).
- <sup>26</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000a).
- <sup>27</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000a).
- <sup>28</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000a).
- <sup>29</sup> Jessor, R. (1991).
- <sup>30</sup> Jessor, R. (1991); Windle, M. (1994); Rosenbaum, M. (1998).
- <sup>31</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>32</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>33</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>34</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>35</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>36</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>37</sup> Wiencke, J. K., Thurston, S. W., Kelsey, K. T., Varkonyi, A., Wain, J. C., Mark, E. J., & Christiani, D. C. (1999); Hirao, T., Nelson, H. H., Ashok, T. D., Wain, J. C., Mark, E. J., Christiani, D. C., Wiencke, J. K., & Kelsey, K. T. (2001); Lando, H. A., Thai, D. T., Murray, D. M., Robinson, L. A., Jeffery, R. W., Sherwood, N. E., & Hennrikus, D. J. (1999); Johnson, P. B., & Richter, L. (2001 in press).
- <sup>38</sup> Lai, S., Lai, H., Page, J. B., & McCoy, C. B. (2000).
- <sup>39</sup> Grant, B. F., & Dawson, D. A. (1997); DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000).
- <sup>40</sup> Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996).
- <sup>41</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>42</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>43</sup> Draper, S. (2000).

<sup>44</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997b); Golub, A., & Johnson, B. D. (2001).

<sup>45</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997b).

<sup>46</sup> Golub, A., & Johnson, B. D. (2001).

<sup>47</sup> Powledge, T. M. (1999).

<sup>48</sup> Tanda, G., Pontieri, F. E., & Di Chiara, G. (1997); de Fonesca, R., Carrera, M. R. A., Navarro, M., Koob, G. F., & Weiss, F. (1997); Wickelgren, I. (1997).

<sup>49</sup> National Council on Alcohol and Drug Dependence. (1992); Sheridan, J., & Winkler, H. (1989); Normand, J., Salyards, S. D., & Mahoney, J. J. (1990).

<sup>50</sup> U.S. Department of Education. (2001a-c).

## Chapter III

### Notes

- <sup>1</sup> National Education Goals Panel. (1999).
- <sup>2</sup> Bush, G. W. (2001).
- <sup>3</sup> U.S. Department of Education. (2000a).
- <sup>4</sup> U.S. Department of Education. (2001b).
- <sup>5</sup> U.S. Department of Education. (2000b).
- <sup>6</sup> U.S. Department of Education. (2001c).
- <sup>7</sup> U.S. Department of Health and Human Services. (1997).
- <sup>8</sup> Johnson R. A., Hoffmann, J. P., & Gerstein, D. R. (1996); Brook, J. S., Richter, L., Whiteman, M., & Cohen, P. (1999); Jessor, R., Donovan, J. E., & Costa, F. M. (1991); Kandel, D. B., Davies, M., Karus, D., & Yamaguchi, K. (1986); Newcomb, M. D., & Bentler, P. M. (1988); Brook, J. S., Richter, L., & Rubenstone, L. (2000); Johnson, P. B., & Richter, L. (2001 in press); Holmen, T. L., Barrett-Conner, E., Holmen, J., & Bjermer, L. (2000); Substance Abuse and Mental Health Services Administration. (2001b).
- <sup>9</sup> Dewey, J. D. (1999); Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1998).
- <sup>10</sup> Dewey, J. D. (1999).
- <sup>11</sup> Dewey, J. D. (1999).
- <sup>12</sup> Hu, T., Lin, Z., & Keeler, T. E. (1998).
- <sup>13</sup> Lewinsohn, P. M., Brown, R. A., Seeley, J. R., & Ramsey, S. E. (2000).
- <sup>14</sup> Johnson, P. B., & Richter, L. (2001 in press); Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000).
- <sup>15</sup> Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000).
- <sup>16</sup> Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000).
- <sup>17</sup> Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000); Goodman, E., & Capitman, J. (2000).
- <sup>18</sup> Goodman, E., & Capitman, J. (2000).
- <sup>19</sup> Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000).
- <sup>20</sup> U.S. Department of Health and Human Services. (1988).
- <sup>21</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>22</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>23</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>24</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>25</sup> Greenblatt, J. C. (2000).
- <sup>26</sup> Greenblatt, J. C. (2000).
- <sup>27</sup> Dewey, J. D. (1999).
- <sup>28</sup> Ellickson, P. L., McGuigan, K. A., Adams, V., Bell, R. M., & Hays, R. D. (1996).
- <sup>29</sup> Lane, J., Gerstein, D., Huang, L., & Wright, D. (1998); Bray, J. W., Zarkin, G. A., Ringwalt, C., & Qi, J. (2000).
- <sup>30</sup> Wichstrom, L. (1998).
- <sup>31</sup> Wichstrom, L. (1998).
- <sup>32</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>33</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>34</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>35</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>36</sup> Wuethrich, B. (2001).
- <sup>37</sup> Swartzwelder, H. S., Wilson, W. A., & Tayyeb, M. I. (1995); Crews, F. T., Braun, C. J., Hoplight, B., Switzer, R. C., & Knapp, D. J. (2000).
- <sup>38</sup> De Bellis, M. D., Clark, D. B., Beers, S. R., Soloff, P. H., Boring, A. M., Hall, J., Kersh, A., & Keshavan, M. S. (2000).
- <sup>39</sup> Wuethrich, B. (2001).
- <sup>40</sup> Wuethrich, B. (2001); Acheson, S. K., Stein, R. M., & Swartzwelder, H. S. (1998).
- <sup>41</sup> Tapert, S. F., & Brown, S. A. (2000); Brown, S. A., Tapert, S. F., Granholm, E., & Delis, D. C. (2000).
- <sup>42</sup> Brown, S. A., Tapert, S. F., Granholm, E., & Delis, D. C. (2000).
- <sup>43</sup> Wuethrich, B. (2001).

- <sup>44</sup> Lynskey, M., & Hall, W. (2000); Ellickson, P., Bui, K., Bell, R., & McGuigan, K. A. (1998).
- <sup>45</sup> Hall, W., & Solowij, N. (1998).
- <sup>46</sup> Joy, J. E., Watson, S. J., & Benson, J. A. (1999).
- <sup>47</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>48</sup> Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996).
- <sup>49</sup> Tanner, J., Davies, S., & O'Grady, B. (1999).
- <sup>50</sup> Joy, J. E., Watson, S. J., & Benson, J. A. (1999).
- <sup>51</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999b).
- <sup>52</sup> Washington Kids Count. (2000b).
- <sup>53</sup> Baumrind, D., & Moselle, K. A. (1985).
- <sup>54</sup> Newcomb, M. D., & Bentler, P. M. (1988).
- <sup>55</sup> Dewey, J. D. (1999).
- <sup>56</sup> Lynskey, M., & Hall, W. (2000).
- <sup>57</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>58</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>59</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>60</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2001).
- <sup>61</sup> Zakzanis, K. K., & Young, D. A. (2001); Bolla, K. I., McCann, U. D., & Ricaurte, G. A. (1998); Morgan, M. J. (1999).
- <sup>62</sup> Bolla, K. I., McCann, U. D., & Ricaurte, G. A. (1998).
- <sup>63</sup> Zakzanis, K. K., & Young, D. A. (2001).
- <sup>64</sup> Mathias, R. (2001).
- <sup>65</sup> CNN Tonight. (2001, June 13).
- <sup>66</sup> National Institute on Drug Abuse. (2001).
- <sup>67</sup> National Institute on Drug Abuse. (2001).
- <sup>68</sup> National Institute on Drug Abuse. (2001).
- <sup>69</sup> Safer, D. J., Zito, J. M., & Fine, E. M. (1996).
- <sup>70</sup> Musser, C. J., Ahmann, P. A., Theye, F. W., Mundt, P., Broste, S. K., & Mueller-Rizner, N. (1998).
- <sup>71</sup> Angold, A., Erkanli, A., Egger, H. L., & Costello, E. J. (2000).
- <sup>72</sup> Eberstadt, M. (1999).
- <sup>73</sup> National Institute on Drug Abuse. (2001).
- <sup>74</sup> Dewey, J. D. (1999); Jessor, R., & Jessor, S. (1977).
- <sup>75</sup> Greenblatt, J. C. (1998).
- <sup>76</sup> Saner, H., & Ellickson, P. (1996).
- <sup>77</sup> Dewey, J. D. (1999); Jessor, R., & Jessor, S. (1977).
- <sup>78</sup> Greenblatt, J. C. (1998).
- <sup>79</sup> Kandel, D. B., Johnson, J. G., Bird, H. R., Weissman, M. M., Goodman, S. H., Lahey, B. B., Regier, D. A., & Schwab-Stone, M. E. (1999).
- <sup>80</sup> Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Caust, J., & Bowes, G. (1996); Escobedo, L. G., Reddy, M., & Giovino, G. A. (1998); Wu, L. T., & Anthony, J. C. (1999); Hanna, E. Z., & Grant, B. F. (1999).
- <sup>81</sup> Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Caust, J., & Bowes, G. (1996); Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000); Breslau, N., & Klein, D. F. (1999); Sonntag, H., Wittchen, H. U., Hofler, M., Kessler, R. C., & Stein, M. B. (2000).
- <sup>82</sup> Molina, B. S. G., Smith, B. H., & Pelham, W. E. (1999).
- <sup>83</sup> Wilson, J. R. (1992); Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992); Timmerman, M. G., Wells, L. A., & Chen, S. (1990); Goldbloom, D. S. (1993); Krahn, D. D. (1991); Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994); Tomeo, C. A., Field, A. E., Berkey, C. S., Colditz, G. A., & Frazier, A. L. (1999); Austin, S. B., & Gortmaker, S. L. (2001).
- <sup>84</sup> Jessor, R., & Jessor, S. (1977).

## Chapter IV Notes

- <sup>1</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>2</sup> Robinson, L. A., Klesges, R. C., Zbikowski, S. M., & Glaser, R. (1997); Luke, D. A., Stamatakis, K. A., & Brownson, R. C. (2000).
- <sup>3</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>4</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>5</sup> Centers for Disease Control and Prevention. (2000a).
- <sup>6</sup> Altabe, J. (2000); Wechsler, H., Kuo, M., Lee, H., & Dowdall, G. W. (2000).
- <sup>7</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>8</sup> Wagenaar, A. C., Toomey, T. L., Murray, D. M., Short, B. J., Wolfson, M., & Jones-Webb, R. (1996).
- <sup>9</sup> Altabe, J. (2000); Harrison, P. A., Fulkerson, J. A., & Park, E. (2000); Jones-Webb, R., Toomey, T., Miner, K., Wagenaar, A. C., Wolfson, M., & Poon, R. (1997); Wagenaar, A. C., Toomey, T. L., Murray, D. M., Short, B. J., Wolfson, M., & Jones-Webb, R. (1996); Office of the Inspector General. (1991).
- <sup>10</sup> Preusser, D., & Williams, A. (1992); Forster, J. L., McGovern, P. G., Wagenaar, A. C., Wolfson, M., Perry, C. L., & Anstine, P. S. (1994).
- <sup>11</sup> Office of the Inspector General. (1991).
- <sup>12</sup> Grover, P. K. (1999); Byrd, D. (1999).
- <sup>13</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>14</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>15</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>16</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>17</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>18</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>19</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>20</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>21</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>22</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>23</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>24</sup> CNN Tonight. (2001, June 13).
- <sup>25</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>26</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>27</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>28</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>29</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001); Johnson, P.B., & Johnson, H. L. (2000).
- <sup>30</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>31</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>32</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>33</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997a).
- <sup>34</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997a).
- <sup>35</sup> Richter, L., & Richter, D. M. (2001).
- <sup>36</sup> Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997).
- <sup>37</sup> Fiore, T. A., & Curtin, T. R. (1997).
- <sup>38</sup> Austin, G., & Prendergast, M. (1991); Weinberg, N. Z. (1997); Young, N. K. (1997).
- <sup>39</sup> Bunikowski, R., Grimmer, I., Heiser, A., Metze, B., Schafer, A., & Obladen, M. (1998); Jacob, T., Windle, M., Seilhamer, R. A., & Bost, J. (1999); Jacobson, S. W. (1999); Leech, S. L., Richardson, G. A., Goldschmidt, L., & Day, N. L. (1999); Milberger, S., Biederman, J., Faraone, S. V., & Jones, J. (1998); Streissguth, A. P., Barr, H. M., Bookstein, F. L., Sampson, P. D., & Olson, H. C. (1999); Weitzman, M., Gortmaker, S., & Sobol, A. (1992); Young, N. K. (1997).
- <sup>40</sup> Van Dyke, D. C., & Fox, A. A. (1990).
- <sup>41</sup> Young, N. K. (1997).
- <sup>42</sup> Milberger, S., Biederman, J., Faraone, S. V., & Jones, J. (1998); Weitzman, M., Gortmaker, S., & Sobol, A. (1992).



- <sup>43</sup> Weissman, M. M., Warner, V., Wickramaratne, P. J., & Kandel, D. B. (1999).
- <sup>44</sup> Austin, G., & Prendergast, M. (1991); Mattson, S. N., Goodman, A. M., Delis, D. C., Caine, C., & Riley, E. P. (1999); Streissguth, A. P., Barr, H. M., & Sampson, P. D. (1990); Streissguth, A. P., Barr, H. M., Sampson, P. D., Bookstein, F. L., & Burgess, D. M. (1994).
- <sup>45</sup> Weinberg, N. Z. (1997).
- <sup>46</sup> Streissguth, A. P., Barr, H. M., & Sampson, P. D. (1990).
- <sup>47</sup> Streissguth, A. P., Barr, H. M., & Sampson, P. D. (1990).
- <sup>48</sup> Richardson, G. A. (1998); Van Dyke, D. C., & Fox, A. A. (1990).
- <sup>49</sup> Fried, P. A. (1995).
- <sup>50</sup> Van Dyke, D. C., & Fox, A. A. (1990).
- <sup>51</sup> Van Dyke, D. C., & Fox, A. A. (1990).
- <sup>52</sup> Austin, G., & Prendergast, M. (1991); Kumpfer, K. L., & DeMarsh, J. (1986).
- <sup>53</sup> Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997).
- <sup>54</sup> Kendall-Tackett, K. A., & Eckenrode, J. (1996).
- <sup>55</sup> Kendall-Tackett, K. A., & Eckenrode, J. (1996).
- <sup>56</sup> Kendall-Tackett, K. A., & Eckenrode, J. (1996).
- <sup>57</sup> Johnson, D. L., Swank, P. R., Baldwin, C. D., & McCormick, D. (1999).
- <sup>58</sup> Weitzman, M., Gortmaker, S., & Sobol, A. (1992).
- <sup>59</sup> Koop, C. E. (1998).
- <sup>60</sup> Austin, G., & Prendergast, M. (1991); Jacob, T., Windle, M., Seilhamer, R. A., & Bost, J. (1999); Sher, K. J. (1991); Schandler, S. L., Brannock, J. G., Cohen, M. J., Antick, J., & Caine, K. (1988); McGrath, C. E., Watson, A. L., & Chassin, L. (1999).
- <sup>61</sup> Hegedus, A. M., Alterman, A. I., & Tarter, R. E. (1984).
- <sup>62</sup> Ervin, C., Little, R., Streissguth, A., & Beck, D. (1984).
- <sup>63</sup> McGrath, C. E., Watson, A. L., & Chassin, L. (1999).
- <sup>64</sup> Hegedus, A. M., Alterman, A. I., & Tarter, R. E. (1984); Knop, J., Teasdale, T. W., Schulsinger, F., & Goodwin, D. W. (1985); Sher, K. J. (1991); Sher, K. J., Walitzer, K. S., Wood, P. K., & Brent, E. E. (1991).
- <sup>65</sup> Austin, G., & Prendergast, M. (1991); Hegedus, A. M., Alterman, A. I., & Tarter, R. E. (1984); Sher, K. J. (1991).
- <sup>66</sup> Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997).
- <sup>67</sup> Johnson, J. L., & Leff, M. (1999).
- <sup>68</sup> Hogan, D. M. (1998).
- <sup>69</sup> Sowder, B. J., & Burt, M. R. (1986); Stanger, C., Higgins, S. T., Bickel, W. K., Elk, R., Grabowski, J., Schmitz, J., Amass, L., Kirby, K. C., & Seracini, A. M. (1999).
- <sup>70</sup> Bauman, P. S., & Dougherty, F. E. (1983); Hogan, D. M. (1998); Stanger, C., Higgins, S. T., Bickel, W. K., Elk, R., Grabowski, J., Schmitz, J., Amass, L., Kirby, K. C., & Seracini, A. M. (1999).
- <sup>71</sup> Kumpfer, K. L., & DeMarsh, J. (1986); Kandel, D. B. (1990).
- <sup>72</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>73</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>74</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>75</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>76</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>77</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>78</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>79</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>80</sup> Hogan, D. M. (1998).
- <sup>81</sup> Smith, A. E., Jussim, L., & Eccles, J. (1999).
- <sup>82</sup> Hogan, D. M. (1998).
- <sup>83</sup> Hoffman, J. P., Brittingham, A., & Larison, C. (1996).
- <sup>84</sup> National Council on Alcohol and Drug Dependence. (1992); Sheridan, J., & Winkler, H. (1989); Normand, J., Salyards, S. D., & Mahoney, J. J. (1990).
- <sup>85</sup> Draper, S. (2000).
- <sup>86</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>87</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000).
- <sup>88</sup> Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1998).
- <sup>89</sup> Substance Abuse and Mental Health Services Administration. (2000).

- <sup>90</sup> Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum D. (1998); Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, S. P., & Saylor, K. E. (2001); Oetting, E. R., & Beauvais, F. (1987a); Oetting, E. R., & Beauvais, F. (1987b); Oetting, E. R., & Beauvais, F. (1990); Oetting, E. R., & Donnermeyer, J. F. (1998); Newcomb, M. D., & Bentler, P. M. (1986); Wills, T. A., & Cleary, S. D. (1999); Ellickson, P. L., Collins, R. L., & Bell, R. M. (1999); Robinson, L. A., Klesges, R. C., Zbikowski, S. M., & Glaser, R. (1997); Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001); Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001); Donovan, J. E. (1996); Kandel, D. B. (1996); Kandel, D. B., & Andrews, K. (1987); Kaplan, H. B. (1995); Newcomb, M. D., & Bentler, P. M. (1986); Oetting, E. R., & Beauvais, F. (1987a); Oetting, E. R., & Beauvais, F. (1987b).
- <sup>91</sup> Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum D. (1998).
- <sup>92</sup> Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum D. (1998).
- <sup>93</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>94</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>95</sup> Ennet, S. T., & Bauman, K. E. (1991); Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999); Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001).
- <sup>96</sup> Thombs, D. L., Wolcott, B. J., & Farkash, L. G. (1997).
- <sup>97</sup> Robinson, L. A., Klesges, R. C., Zbikowski, S. M., & Glaser, R. (1997).
- <sup>98</sup> Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001).
- <sup>99</sup> Patton, G. C., Carlin, J. D., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998).
- <sup>100</sup> Bogenschneider, K., Wu, M. Y., Raffaelli, M., & Tsay, J. C. (1998).
- <sup>101</sup> Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, S. P., & Saylor, K. E. (2001).
- <sup>102</sup> Ary, D. V., Duncan, T. E., Duncan, S. C., & Hops, H. (1999).
- <sup>103</sup> Hoffmann, J. P., Su, S. S. (1998).
- <sup>104</sup> Washington Kids Count. (2000a).
- <sup>105</sup> Washington Kids Count. (2000a).
- <sup>106</sup> Washington Kids Count. (2000a).
- <sup>107</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>108</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>109</sup> Robins, L. N. (1984); Sampson, R. J. (1985); Substance Abuse and Mental Health Services Administration. (2000).
- <sup>110</sup> Robinson, L. A., Klesges, R. C., Zbikowski, S. M., & Glaser, R. (1997); Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998).
- <sup>111</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>112</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>113</sup> Crum R. M., Lillie-Blanton, M., & Anthony, J. C. (1996).
- <sup>114</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>115</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>116</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>117</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>118</sup> Oetting, E. R., Donnermeyer, J. F., & Deffenbacher, J. L. (1998).
- <sup>119</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>120</sup> Substance Abuse and Mental Health Services Administration. (2000).

## Chapter V

### Notes

- <sup>1</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>2</sup> Davis, A. (1999, November 17).
- <sup>3</sup> 21 U.S.C. §860. (1999).
- <sup>4</sup> Vaishnav, A. (2001).
- <sup>5</sup> National Center for Education Statistics. (1998)
- <sup>6</sup> Advancement Project and Civil Rights Project. (2000)
- <sup>7</sup> National Center for Education Statistics. (1999b); Cauchon, D. (1999, April 13).
- <sup>8</sup> Boss, S. (1998); Education Commission of the States. (1999).
- <sup>9</sup> Weller, N. F., Tortolero, S. R., Kelder, S. H., Grunbaum, J. A., Carvajal, S. C., & Gingiss, P. M. (1999).
- <sup>10</sup> Advancement Project and Civil Rights Project. (2000).
- <sup>11</sup> Davis, A. (1999, November 17).
- <sup>12</sup> National Center for Education Statistics. (1998).
- <sup>13</sup> National Conference of State Legislatures. (1999).
- <sup>14</sup> New Jersey v. T. L. O., 469 U.S. 325. (1985).
- <sup>15</sup> U.S. Department of Education. (1996).
- <sup>16</sup> Veronia School District v. Wayne Acton, 515 U.S. 646. (1995).
- <sup>17</sup> Jensen, J. N. (2000).
- <sup>18</sup> Kansas State University. (1996).
- <sup>19</sup> Gray, C. (2000, January 27).
- <sup>20</sup> Richter, L., & Johnson, P. B. (2001 in press).
- <sup>21</sup> Hawkins, D. (1999).
- <sup>22</sup> Gelpi, Y. (2000)
- <sup>23</sup> National Institute on Drug Abuse. (1998).
- <sup>24</sup> Jaffe, S. (1998).
- <sup>25</sup> Hawkins, D. (May 31, 1999).
- <sup>26</sup> Hawkins, D. (May 31, 1999).
- <sup>27</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000b).
- <sup>28</sup> Commonwealth of Pennsylvania v. Vincent Francis Cass, 119 S.Ct. 89. (1998).
- <sup>29</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
- <sup>30</sup> Knight, D. (1999, October 15); Behrendt, B. (1999, July 16); Gerth, J. (1999, October 13).
- <sup>31</sup> Knox County Education Association v. Knox County Board of Education, 158 F.3d 361. (6th Cir., 1998)
- <sup>32</sup> Vicini, J. (1999).
- <sup>33</sup> Institute of Medicine. (1994).
- <sup>34</sup> Kumpfer, K. L. (1999).
- <sup>35</sup> Hallfors, D., Sporer, A., Pankratz M., & Godette, D. (2000).
- <sup>36</sup> UCLA Mental Health in Schools Training and Technical Assistance Center. (2000).
- <sup>37</sup> Tashjian, C. A., Silvia, E. S., & Thorne, J. (1996); Brown, J. H., D'Emidio-Caston, M., Kaufman, K., Goldsworthy-Hanner, T., & Alioto, M. (1995); Silvia, E. S., Thorne, E. (1997); Hallfors, D., Sporer, A., Pankratz, M., & Godette, D. (2000).
- <sup>38</sup> Kumpfer, K. L. (1999).
- <sup>39</sup> Perry, C. L. & Kelder, S. H. (1992); Botvin, G. J. (1995).
- <sup>40</sup> Hansen, W. B. (1996).
- <sup>41</sup> Botvin, G. J. (1995).
- <sup>42</sup> Dryfoos, J. G. (1990).
- <sup>43</sup> Newcomb, M. (1993).
- <sup>44</sup> Botvin, G. J. (1996).
- <sup>45</sup> Botvin, G. J. (1995).
- <sup>46</sup> Botvin, G. J. (1995).
- <sup>47</sup> Hansen, W. B. (1996).
- <sup>48</sup> Botvin, G. J. (1995); Botvin, G. J. (1996); Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995); Pentz, M. A., Trebow, E. A., Hansen, W. B., MacKinnon, D. P., Dwyer, J. H., & Johnson, C. A. (1990); Hansen, W. B. (1996).

- <sup>49</sup> Botvin, G. J., Baker, E., Dusenbury, L., Tortu, S., & Botvin, E. M. (1990); Gottfredson, D. C. (1997).
- <sup>50</sup> Ellickson, P. L., & Bell, R. M. (1990).
- <sup>51</sup> Ellickson, P. L., & Bell, R. M. (1990).
- <sup>52</sup> Ellickson, P. L., & Bell, R. M. (1990).
- <sup>53</sup> Bell, R. M., Ellickson, P. L., & Harrison, E. R. (1993); Ellickson, P. L., Bell, R. M., & McGuigan, K. (1993).
- <sup>54</sup> Dent, C. W., Sussman, S., Stacy, A. W., Craig, S., Burton, D., & Flay, B. R. (1995).
- <sup>55</sup> Dent, C. W., Sussman, S., Stacy, A. W., Craig, S., Burton, D., & Flay, B. R. (1995).
- <sup>56</sup> Durlak, J. A. (1995).
- <sup>57</sup> D.A.R.E. (2000).
- <sup>58</sup> Durlak, J. A. (1995); Botvin, G. J. (1996); D.A.R.E. (2000).
- <sup>59</sup> Ennet, S. T., Tobler, N. S., Ringwalt, C. L., & Flewelling, R. L. (1994); Lynam, D. R., Milich, R., Zimmerman, R., Novak, S. P., Logan, T. K., Martin, C., Leukefeld, C., & Clayton, R. (1999).
- <sup>60</sup> Lynam, D. R., Milich, R., Zimmerman, R., Novak, S. P., Logan, T. K., Martin, C., Leukefeld, C., & Clayton, R. (1999).
- <sup>61</sup> U.S. Department of Education. (1998b).
- <sup>62</sup> Hantman, I., & Crosse, S. (2000).
- <sup>63</sup> Silvia, E. S., & Thorne, E. (1997).
- <sup>64</sup> Silvia, E. S., & Thorne, E. (1997).
- <sup>65</sup> U.S. Department of Education. (1996).
- <sup>66</sup> Fothergill, K., & Ballard, E. (1998).
- <sup>67</sup> Friedrich, M. J. (1999).
- <sup>68</sup> Fothergill, K., & Ballard, E. (1998).
- <sup>69</sup> National Center for Education Statistics. (1999a).
- <sup>70</sup> Wagner, E. F., Dinklage, S. C., Cudworth, C., & Vyse, J. (1999).
- <sup>71</sup> Wagner, E. F., Dinklage, S. C., Cudworth, C., & Vyse, J. (1999).
- <sup>72</sup> Office of Elementary and Secondary School Services. (1998); National Association of Student Assistance Professionals. (1999).
- <sup>73</sup> Wagner, E. F., Dinklage, S. C., Cudworth, C., & Vyse, J. (1999); Scott, D. M., Surface, J. L., Friedli, D., & Barlow, T. W. (1999).
- <sup>74</sup> Emshoff, J. G., & Price, A. W. (1999).
- <sup>75</sup> Scott, D. M., Surface, J. L., Friedli, D., & Barlow, T. W. (1999); Deck, D. D., & D'Ambrosio, R. (1998); Office of Elementary and Secondary School Services. (1998); Milgram, G. G. (1998).
- <sup>76</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1996).
- <sup>77</sup> Olson, A., Vanaman, S., & White, D. (2000).
- <sup>78</sup> Saucier, H. (2000).
- <sup>79</sup> U.S. Department of Education. (2000c).
- <sup>80</sup> Grossman, J. B., & Garry, E. M. (1997).
- <sup>81</sup> Harrell, A., Cavanagh, S., & Sridharan, S. (1998).
- <sup>82</sup> Blueprints for Violence Prevention. (2001); Kumpfer, K. L., DeMarsh, J. P., & Child, W. (1989).

## Chapter VI

### Notes

- <sup>1</sup> Johnson, P. B., & Johnson, H. L. (2000).
- <sup>2</sup> Wirt, J. (1998); Stein, M., & Thorkildsen, R. (1999).
- <sup>3</sup> Johnson, P. B., & Johnson, H. L. (2000); Barnes, G. M., & Farrell, M. P. (1992); Anderson, A. R., & Henry, C. S. (1994); Wills, T. A., Vacarro, D., & Mcnamara, G. (1992); The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a); Bailey, S. L., & Hubbard, R. L. (1990); Hundleby, J. D., & Mercer, G. W. (1987); Wills, T. A., Mariani, J., & Filer, M. (1996); Brook, J. S., Brook, D. W., Whiteman, M., Gordon, A. S., & Cohen, P. (1990); Barnes, G. M., Farrell, M. P., & Banerjee, S. (1995); Newcomb, M. D., & Felix-Ortiz, M. (1992).
- <sup>4</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>5</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>6</sup> Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992); Petraitis, J., Flay, B. R., Miller, T. Q., Torpy, E. J., & Greiner, B. (1998); Substance Abuse and Mental Health Services Administration. (2001); Brook, J. S., Nomura, C., & Cohen, P. (1989); Brook, J. S., Brook, D. W., Whiteman, M., Gordon, A. S., & Cohen, P. (1990); Newcomb, M. D., & Felix-Ortiz, M. (1992); Wills, T. A., Vaccaro, D., & McNamara, G. (1992).
- <sup>7</sup> Drug Strategies. (1999).
- <sup>8</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>9</sup> Johnson, P. B., & Johnson, H. L. (2000).
- <sup>10</sup> Johnson, P. B., & Johnson, H. L. (2000).
- <sup>11</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>12</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>13</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>14</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>15</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>16</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>17</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
- <sup>18</sup> The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a).
- <sup>19</sup> Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R. (1997).
- <sup>20</sup> Oetting, E. R., & Donnermeyer, J. F. (1998b); Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R. (1997).
- <sup>21</sup> Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992).
- <sup>22</sup> Vallas, P. (2000).
- <sup>23</sup> Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R. (1997); Rountree, P.W., & Clayton, R. R. (1999).
- <sup>24</sup> Frieberg, H. J. (1998).
- <sup>25</sup> Ennett, S. T., Flewelling, R. L., Lindrooth, R. C., & Norton, E. C. (1997).
- <sup>26</sup> Komro, K. A., Perry, C. L., Murray, D. M., Veblen-Mortenson, S., Williams, C. L., & Anstine, P. S. (1996); McLaughlin, T. F., & Vacha, E. F. (1993); Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999); Hawkins, J. D. & Weis, J. G. (1985).
- <sup>27</sup> Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999).
- <sup>28</sup> Hawkins, J. D. & Weis, J. G. (1985).
- <sup>29</sup> Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999).
- <sup>30</sup> Market Data Retrieval. (1999).
- <sup>31</sup> The Family Academy, NY (personal communications, April 4, 2001).
- <sup>32</sup> North Central Regional Educational Laboratory, Center for School and Community Development. (2001).
- <sup>33</sup> Silvia, E., & Thorne, J. (1997).
- <sup>34</sup> Reyes, O., Gillock, K., & Kobus, K. (1994).
- <sup>35</sup> Johnston, L., O'Malley, P. M., & Bachman, J. G. (1999).
- <sup>36</sup> Tobias, A. K., & Myrick, R. D. (1999); Maggs, J. L., Schulenberg, J., & Hurrelmann, K. (1997).
- <sup>37</sup> Stein, M., & Thorkildsen, R. (1999).
- <sup>38</sup> Stein, M., & Thorkildsen, R. (1999).

- <sup>39</sup> Mosteller, F. (1995); Stronski, S. M., Ireland, M., Michaud, P., Narring, F., & Resnick, M.D. (2000); Brook, J. S., Nomura, C., & Cohen, P. (1989); Schoggen, P., & Schoggen, M. (1988).
- <sup>40</sup> Raywid, M. A. (1998).
- <sup>41</sup> Raywid, M. A. (1998).
- <sup>42</sup> Raywid, M. A. (1998).
- <sup>43</sup> Raywid, M. A. (1998).
- <sup>44</sup> Ad Council. (1998).
- <sup>45</sup> Shore, R. (1995).
- <sup>46</sup> Baker, J. A., Terry, T., Bridger, R., & Winsor, A. (1997); Battistich, V., Soloman, D., Watson, M., & Schaps, E. (1997); Dubas, J. S., Lynch, K. B., Galano, J., Geller, S., & Hunt, D. (1998); Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. G. (1999).
- <sup>47</sup> Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. G. (1999).
- <sup>48</sup> Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. G. (1999).
- <sup>49</sup> Lonkevich, S. (2001).
- <sup>50</sup> Lonkevich, S. (2001).
- <sup>51</sup> Wynne, E. A., & Hess, M. (1986); London, P. (1987); Hanson, S. L., & Ginsburg, A. L. (1988).
- <sup>52</sup> Maggs, J. L., Schulenberg, J., & Hurrelmann, K. (1997); Lerner, R. M., Ostrom, C. W., & Freel, M. A. (1997).
- <sup>53</sup> Curley, B. (May 15, 2001).
- <sup>54</sup> Altman, D. G., Wheelis, A. Y., McFarlane, M., Lee, H., & Fortmann, S. P. (1999).
- <sup>55</sup> Curley, B. (May 15, 2001).
- <sup>56</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>57</sup> Substance Abuse and Mental Health Services Administration. (2000).
- <sup>58</sup> *CASA's calculation based on population data presented in:* Klein, R. J., & Schoenborn, C. A. (2001).
- <sup>59</sup> Curley, B. (May 15, 2001).
- <sup>60</sup> Curley, B. (May 15, 2001).



# Appendix A

## Survey Descriptions

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### **Youth Risk Behavior Survey (YRBS)**

The Youth Risk Behavior Survey (YRBS) monitors six categories of priority health-risk behaviors among youth and young adults-- behaviors that contribute to unintentional and intentional injuries; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases (STDs) (including human immunodeficiency virus [HIV] infection); unhealthy dietary behaviors; and physical inactivity. The YRBS includes a national school-based survey conducted by the CDC as well as state, territorial, and local school-based surveys conducted by education and health agencies.

### **Monitoring the Future (MTF)**

Monitoring the Future is an ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults. Each year, a total of some 50,000 eighth, tenth and twelfth grade students are surveyed (twelfth graders since 1975, and eighth and tenth graders since 1991). In addition, annual follow-up questionnaires are mailed to a sample of each graduating class for a number of years after their initial participation.

### **The National Household Survey on Drug Abuse (NHSDA)**

The National Household Survey provides annual estimates of the prevalence of illicit drug, alcohol and tobacco use in the U. S. and monitors the trends in use over time. It is based on a representative sample of the U.S. population age 12 and older, including persons living in households and in some group quarters such as dormitories and homeless shelters.



## **CASA's Annual National Survey of American Attitudes on Substance Abuse**

Since 1995, CASA has conducted national surveys of teens' attitudes toward substance abuse as well as the attitudes of those who most influence them--parents, teachers and school principals. Other surveys seek to measure the extent of substance use in the population; CASA's survey probes substance abuse risk. The purpose of the survey is to identify factors that increase or diminish the likelihood that teens will use cigarettes, alcohol or illegal drugs in an effort to develop the most effective means of helping teens avoid substance abuse.

# Appendix B

## Safe, Disciplined and Drug-Free Schools Expert Panel Exemplary Programs 2001\*

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To be considered “exemplary” by the Department of Education, a program must have been evaluated by at least one study that has demonstrated the program’s effectiveness in reducing substance use, violent behavior or other conduct problems one year or longer beyond baseline. In addition, the program has to have received a rating of “3” (see ratings below) on Criterion 1 (see Criteria below), a rating of “2” or higher on Criteria 2 through 7, and a rating of “3” on at least three of Criteria 2 through 7.

### *Rating Scale:*

- 0 = absent
- 1 = minimally acceptable
- 2 = adequate
- 3 = strong

## **Criteria**

### *Criterion 1*

The program reports relevant evidence of efficacy/effectiveness based on a methodologically sound evaluation.

### *Criterion 2*

The program’s goals with respect to changing behavior and/or risk and protective factors are clear and appropriate for the intended population and setting.

### *Criterion 3*

The rationale underlying the program is clearly stated, and the program’s content and processes are aligned with its goals.

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\* United States Department of Education. (2001). Safe, Disciplined, and Drug-Free Schools Expert Panel for Exemplary and Promising Programs. Retrieved from the World Wide Web 8/3/01; [http://www.ed.gov/offices/OERI/ORAD/KAD/expert\\_panel/](http://www.ed.gov/offices/OERI/ORAD/KAD/expert_panel/)

#### ***Criterion 4***

The program's content takes into consideration the characteristics of the intended population and setting (i.e. developmental stage, ethnicity, gender, culture) and the needs implied by these characteristics.

#### ***Criterion 5***

The program implementation process effectively engages the intended population.

#### ***Criterion 6***

The application describes how the program is integrated into schools' educational missions.

#### ***Criterion 7***

The program provides necessary information and guidance for replication in other appropriate settings.

### **Exemplary Programs 2001**

**Athletes Training and Learning to Avoid Steroids (ATLAS)**  
Portland, OR

**CASASTART\***  
New York, NY  
Operating in the following cities, effective 9/01:  
Los Angeles, CA  
Commerce City, CO  
Denver, CO  
El Paso, TX  
San Antonio, TX  
Philadelphia, PA  
Washington, DC  
Bridgeport, CT  
Austin, TX  
New York, NY

**Life Skills Training**  
Hartsdale, NY

**OSLC Treatment Foster Care**  
Eugene, OR

**Project ALERT**  
Los Angeles, CA

**Project Northland- Alcohol Prevention Curriculum**  
Center City, MN

**Project T.N.T.- Towards No Tobacco Use**  
Scotts Valley, CA

**Second Step: A Violence Prevention Curriculum**  
Seattle, WA

**Strengthening Families Program: For Parents and Youth 10-14**  
Ames, IA

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\* The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

# Appendix C

## Safe, Disciplined and Drug-Free Schools Expert Panel Promising Programs 2001\*

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To be considered “promising” by the Department of Education, a program must have been evaluated by at least one study that has demonstrated the program’s effectiveness in reducing substance use, violent behavior, conduct problems or one or more risk and protective factors that research has established as major predictors of these behaviors. In addition, the program has to have received a rating of “2” or higher on Criteria 1 through 5 and a rating of “1” or higher on Criteria 6 and 7.

### *Rating Scale:*

0 = absent  
1 = minimally acceptable  
2 = adequate  
3 = strong

## **Criteria**

### *Criterion 1*

The program reports relevant evidence of efficacy/effectiveness based on a methodologically sound evaluation.

### *Criterion 2*

The program’s goals with respect to changing behavior and/or risk and protective factors are clear and appropriate for the intended population and setting.

### *Criterion 3*

The rationale underlying the program is clearly stated, and the program’s content and processes are aligned with its goals.

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\* United States Department of Education. (2001). Safe, Disciplined, and Drug-Free Schools Expert Panel for Exemplary and Promising Programs. Retrieved from the World Wide Web 8/3/01;  
[http://www.ed.gov/offices/OERI/ORAD/KAD/expert\\_panel/](http://www.ed.gov/offices/OERI/ORAD/KAD/expert_panel/)

#### ***Criterion 4***

The program's content takes into consideration the characteristics of the intended population and setting (i.e. developmental stage, ethnicity, gender, culture) and the needs implied by these characteristics.

#### ***Criterion 5***

The program implementation process effectively engages the intended population.

#### ***Criterion 6***

The application describes how the program is integrated into schools' educational missions.

#### ***Criterion 7***

The program provides necessary information and guidance for replication in other appropriate settings.

### **Promising Programs 2001**

**Aggression Replacement Training**  
Syracuse, NY

**Aggressors, Victims and Bystanders :  
Thinking and Acting to Prevent Violence**  
Newton, MA

**AI's Pals: Kids Making Healthy Choices**  
Richmond, VA

**All Stars (Core Program)**  
Greensboro, NC

**Child Development Project**  
Oakland, CA

**Community of Caring**  
Washington, DC

**Creating Lasting Family Connections**  
Louisville, KY

**Facing History and Ourselves**  
Brookline, MA

**Growing Healthy**  
New York, NY

**I Can Problem Solve (ICPS)**  
Philadelphia, PA

**Let Each One Touch One Mentor Program**  
Denver, CO

**Linking the Interests of Families and  
Teachers (LIFT)**  
Eugene, OR

**Lions-Quest Skills for Adolescence**  
Newark, OH

**Lions-Quest Working Toward Peace**  
Newark, OH

**Michigan Model for Comprehensive School  
Health Education**  
Lansing, MI

**Minnesota Smoking Prevention Program**  
Center City, MN

**Open Circle Curriculum**  
Wellesley, MA

**PATHS Curriculum (Promoting Alternative  
Thinking Strategies)**  
Seattle, WA

**PeaceBuilders**  
Tucson, AZ

**Peacemakers Program: Violence Prevention  
for Students in Grades Four Through Eight**  
Cleveland, OH

**Peers Making Peace**  
Richardson, TX

**Positive Action Program**  
Twin Falls, ID

**Preparing For The Drug Free Years (PDFY)**  
Seattle, WA

**Primary Mental Health Project**  
Rochester, NY

**Project STAR**  
Los Angeles, CA

**Responding in Peaceful and Positive Ways  
(RIPP)**  
Richmond, VA

**Say It Straight Training**  
Denton, TX

**SCARE Program**  
TAMC, HI

**Seattle Social Development Project  
Development Research and Programs, Inc.**  
Seattle, WA

**SMART Team (Students Managing Anger &  
Resolution Together)**  
Tucson, AZ

**Social Decision Making/Problem Solving**  
New Brunswick, NJ

**Teenage Health Teaching Modules**  
Newton, MA

**The Think Time Strategy**  
Lincoln, NE



## Reference List

21 U.S.C. § 860 (1999).

Abdelraham, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse*, 8(1), 55-75.

Acheson, S. K., Stein, R. M., & Swartzwelder, H. S. (1998). Impairment of semantic and figural memory by acute ethanol: Age-dependent effects. *Alcoholism: Clinical and Experimental Research*, 22(7), 1437-1442.

Ad Council. (1998). *The messages America needs to hear*. [On-line]. Retrieved July 24, 2001 from the World Wide Web: [http://www.adcouncil.org/fr\\_camp\\_historic.html](http://www.adcouncil.org/fr_camp_historic.html).

Advancement Project and Civil Rights Project. (2000). *Opportunities suspended: The devastating consequences of zero tolerance and school discipline policies*. [On-line]. Retrieved September 13, 2000 from the World Wide Web: [http://www.law.harvard.edu/groups/civilrights/conferences/zero/zt\\_report2.html](http://www.law.harvard.edu/groups/civilrights/conferences/zero/zt_report2.html).

Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001). Peers, schools, and adolescent cigarette smoking. *Journal of Adolescent Health*, 29(1), 22-30.

Allison, K. W., Crawford, I., Leone, P. E., Trickett, E., Perez-Febles, A., Burton, L. M., & LeBlanc, R. (1999). Adolescent substance use: Preliminary examinations of school and neighborhood context. *American Journal of Community Psychology*, 27(2), 111-141.

Altabe, J. (2000, May 13). Through the eyes of youth: Myriad reasons lead to teen drinking, with various and imaginative methods, underage drinkers who want alcohol can usually get it. *Sarasota Herald-Tribune*, p. 14A.

Altman, D. G., Wheelis, A. Y., McFarlane, M., Lee, H., & Fortmann, S. P. (1999). The relationship between tobacco access and use among adolescents: A four community study. *Social Science and Medicine*, 48(6), 759-775.

Anderson, A. R. & Henry, C. S. (1994). Family system characteristics and parental behaviors as predictors of adolescent substance use. *Adolescence*, 29(114), 405-420.



- Angold, A., Erkanli, A., Egger, H. L., & Costello, E. J. (2000). Stimulant treatment for children: A community perspective. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(8), 975-984.
- Ary, D. V., Duncan, T. E., Duncan, S. C., & Hops, H. (1999). Adolescent problem behavior: The influence of parents and peers. *Behavior Research and Therapy, 37*(3), 217-230.
- Austin, G. & Prendergast, M. (1991). *Young children of substance abusers: Prevention Research Update no. 8*. Portland, OR: Western Regional Center for Drug-Free Schools and Communities.
- Austin, S. B. & Gortmaker, S. L. (2001). Dieting and smoking initiation in early adolescent girls and boys: A prospective study. *American Journal of Public Health, 91*(3), 446-450.
- Bailey, S. L. & Hubbard, R. L. (1990). Developmental variation in the context of marijuana initiation among adolescents. *Journal of Health and Social Behavior, 31*(1), 587-593.
- Baker, J. A., Terry, T., Bridger, R., & Winsor, A. (1997). Schools as caring communities: A relational approach to school reform. *School Psychology Review, 26*(4), 586-602.
- Barnes, G. M. & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. *Journal of Marriage and the Family, 54*(4), 763-776.
- Barnes, G. M., Farrell, M. P., & Banarjee, S. (1995). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. In G. M. Boyd, J. Howard, & R. A. Zucker (Eds.), *Alcohol problems among adolescents: Current directions in prevention research* (pp. 13-31). Hillsdale, NJ: Erlbaum.
- Battistich, V., Soloman, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational Psychologist, 32*(3), 137-151.
- Bauman, P. S. & Dougherty, F. E. (1983). Drug-addicted mothers' parenting and their children's development. *International Journal of the Addictions, 39*(5), 291-302.
- Baumrind, D. & Moselle, K. A. (1985). A developmental perspective on adolescent drug use. *Advances in Alcohol and Substance Abuse, 5*(3-4), 41-67.

- Behrendt, B. (1999, July 16). Citrus County schools set drug-testing policy. *Pasco Times*, p. 12.
- Bell, R. M., Ellickson, P. L., & Harrison, E. R. (1993). Do drug prevention effects persist into high school? How Project ALERT did with ninth graders. *Preventive Medicine*, 22(4), 463-483.
- Bogenschneider, K., Wu, M., Raffaelli, M., & Tsay, J. C. (1998). Parent influences on adolescent peer orientation and substance use: The interface of parenting practices and values. *Child Development*, 69(6), 1672-1688.
- Bolla, K. I., McCann, U. D., & Ricaurte, G. A. (1998). Memory impairment in abstinent MDMA ("Ecstasy") users. *Neurology*, 51(6), 1532-1537.
- Boss, S. (1998). *Learning from the margins: The lessons of alternative schools*. [On-line]. Retrieved August 24, 1999 from the World Wide Web: [http://www.nwrel.org/nwedu/summer\\_98/article2.html](http://www.nwrel.org/nwedu/summer_98/article2.html).
- Botvin, G. J. (1995). Drug abuse prevention in school settings. In G. Botvin, S. Schinke, & M. Orlandi (Eds.), *Drug abuse prevention with multiethnic youth* (pp. 169-192). Thousand Oaks, CA: Sage.
- Botvin, G. J. (1996). *Preventing drug abuse through the schools: Intervention programs that work. Opening plenary session 3*. [On-line]. Retrieved August 1, 2001 from the World Wide Web: <http://www.nida.nih.gov>.
- Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *JAMA*, 273(14), 1106-1112.
- Botvin, G. J., Baker, E., Dusenbury, L., Tortu, S., & Botvin, E. M. (1990). Preventing adolescent drug abuse through a multimodal cognitive-behavioral approach: Results of a 3-year study. *Journal of Consulting and Clinical Psychology*, 58(4), 437-446.
- Bray, J. W., Zarkin, G. A., Ringwalt, C., & Qi, J. (2000). The relationship between marijuana initiation and dropping out of high school. *Health Economics*, 9(1), 9-18.
- Breslau, N. & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry*, 56(12), 1141-1147.

- Brook, J. S., Brook, D. W., Whiteman, M., Gordon, S., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic, Social and General Psychology Monographs*, 116(2), 111-267.
- Brook, J. S., Nomura, C., & Cohen, P. (1989). A network of influences on adolescent drug involvement: Neighborhood, school, peer, and family. *Genetic, Social and General Psychology Monographs*, 115(1), 123-145.
- Brook, J. S., Richter, L., & Rubenstone, L. (2000). Consequences of adolescent drug use on psychiatric disorders in early adulthood. *Annals of Medicine*, 32(6), 401-407.
- Brook, J. S., Richter, L., Whiteman, M., & Cohen, P. (1999). Consequences of adolescent marijuana use: Incompatibility with the assumption of adult roles. *Genetic, Social and General Psychology Monographs*, 125(2), 193-207.
- Brown, J. H., D'Emidio-Caston, M., Kaufman, K., Goldsworthy-Hanner, T., & Alioto, M. (1995). *In their own voices: Students and educators evaluate California school-based drug, alcohol, and tobacco, education (DATE) programs*. Calverton, MD: Pacific Institute for Research and Evaluation.
- Brown, S. A., Tapert, S. F., Granholm, E., & Delis, D. C. (2000). Neurocognitive functioning of adolescents: Effects of protracted alcohol use. *Alcoholism: Clinical and Experimental Research*, 24(2), 164-171.
- Bunikowski, R., Grimmer, I., Heiser, A., Metze, B., Shafer, A., & Obladen, M. (1998). Neurodevelopment outcome after prenatal exposure to opiates. *European Journal of Pediatrics*, 157(9), 724-730.
- Bush, G. W. (2001). *No child left behind: Executive summary*. [On-line]. Retrieved August 1, 2001 from the World Wide Web: <http://www.ed.gov/inits/nclb/index.html>.
- Byrd, D. (1999). Last call for alcohol? *National Journal*, 31(51/52), 3604-3608.
- Cauchon, D. (1999, April 13). Schools struggling to balance 'zero tolerance', common sense. *USA Today*, p. 1A News.
- Centers for Disease Control and Prevention. (2000a). *Youth risk behavior surveillance - United States, 1999*. Atlanta, GA: U.S. Department of Health and Human Services.

- Centers for Disease Control and Prevention. (2000b). *Fact sheet: Youth risk behavior trends from CDC's 1991, 1993, 1995, 1997, and 1999 Youth Risk Behavior Surveys*. Atlanta, GA: U.S. Department of Health and Human Services.
- CNN Tonight. (2001). *"Hug Drug" use is rising fast, harming teens*. [On-line]. Retrieved July 1, 2001 from the World Wide Web: <http://www.cnn.com/TRANSCRIPTS/0106/13/tonight.02.html>.
- Commonwealth of Pennsylvania v. Cass*. (1-7-1998). 119 S.Ct. 89 (1998).
- Crews, F. T., Braun, C. J., Hoplight, B., Switzer, R. C., & Knapp, D. J. (2000). Binge ethanol consumption causes differential brain damage in young adolescent rats compared with adult rats. *Alcoholism: Clinical and Experimental Research*, 24(11), 1712-1723.
- Crum, R. M., Lillie-Blanton, M., & Anthony, J. C. (1996). Neighborhood environment and opportunity to use cocaine and other drugs in late childhood and early adolescence. *Drug and Alcohol Dependence*, 43(3), 155-161.
- Curley, B. (2001). *Lack of research capacity plague adolescent treatment system*. [On-line]. Retrieved July 15, 2001 from the World Wide Web: <http://www.jointogether.com>.
- D.A.R.E. (2000). *D.A.R.E. overview*. [On-line]. Retrieved December 18, 2000 from the World Wide Web: <http://www.dare.com>.
- Davis, A. (1999, November 17). Zero tolerance is too severe, father says. *Milwaukee Journal Sentinel*, p. 1.
- De Bellis, M. D., Clark, D. B., Beers, S. R., Soloff, P. H., Boring, A. M., Hall, J., Kersh, A., & Keshavan, M. S. (2000). Hippocampal volume in adolescent-onset alcohol use disorders. *American Journal of Psychiatry*, 157(5), 737-744.
- Deck, D. D., & D'Ambrosio, R. (1998). *Prevention and Intervention with youth substance abuse: Washington State prevention and intervention services program (1989-1998): Annual Report*. Olympia, WA: Office of Superintendent of Public Instruction.
- de Fonesca, R., Carrera, M. R. A., Navarro, M., Koob, G. F., & Weiss, F. (1997). Activation of corticotropin-releasing factor in the limbic system during cannabinoid withdrawal. *Science*, 276(5321), 2050-2054.

- Dembo, R., Shemwell, M., Guida, J., Schmeidler, J., Baumgartner, W., Ramirez-Garnica, G., & Seeberger, W. (1999). A comparison of self-report, urine sample, and hair testing for drug use: A longitudinal study. In T. Mieczkowski (Ed.), *Drug testing technology: Assessment of field applications* (pp. 91-108). New York: CRC Press.
- Dent, C. W., Sussman, S., Stacy, A. W., Craig, S., Burton, D., & Flay, B. R. (1995). Two-year behavior outcomes of Project Towards No Tobacco Use. *Journal of Consulting and Clinical Psychology, 63*(4), 676-677.
- Desai, S., Chase-Landsdale, P. L., & Michael, R. T. (1989). Mother or market? Effect of maternal employment on the intellectual ability of 4-year-old children. *Demography, 26*(4), 545-561.
- Dewey, J. D. (1999). Reviewing the relationship between school factors and substance use for elementary, middle, and high school students. *Journal of Primary Prevention, 19*(3), 177-225.
- DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry, 157*(5), 745-750.
- Donovan, J. E. (1996). Problem-behavior theory and the explanation of adolescent marijuana use. *Journal of Drug Issues, 26*(3), 379-404.
- Draper, S. (2000). Substance abuse in the 21st century: Positioning the nation for progress: Drug free schools: An American oxymoron. In Simi Valley, CA: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The Ronald Reagan Presidential Foundation and Center for Public Affairs.
- Drug Strategies. (1996). *Making the grade: A guide to school drug prevention programs*. Washington, DC: Drug Strategies.
- Dryfoos, J. G. (1990). *Adolescents at risk: Prevalence and prevention*. New York: Oxford University Press.
- Dubas, J. S., Lynch, K. B., Galano, J., Geller, S., & Hunt, D. (1998). Preliminary evaluation of a resiliency-based preschool substance abuse and violence prevention project. *Journal of Drug Education, 28*(3), 235-255.

- Durlak, J. A. (1995). School-based prevention programs for children and adolescents. In A. Kazdin (Ed.), *Developmental clinical psychology and psychiatry series*. Thousand Oaks, CA: Sage.
- Eberstadt, M. (1994). *Why Ritalin rules*. [On-line]. Retrieved June 28, 2001 from the World Wide Web: [http://www.policyreview.org/apr99/eberstadt\\_print.html](http://www.policyreview.org/apr99/eberstadt_print.html).
- Education Commission of the States. (1999). *Discipline: Alternative schools for disruptive students*. [On-line]. Retrieved June 7, 1999 from the World Wide Web: <http://www.ecs.org>.
- Ellickson, P. L. & Bell, R. M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science*, *247*(4982), 1299-1305.
- Ellickson, P. L., Bell, R. M., & McGuigan, K. (1993). Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health*, *83*(6), 856-861.
- Ellickson, P. L., Bui, K., Bell, R., & McGuigan, K. (1998). Does early drug use increase the risk of dropping out of high school? *Journal of Drug Issues*, *28*(2), 357-380.
- Ellickson, P. L., Collins, R. L., & Bell, R. M. (1999). Adolescent use of illicit drugs other than marijuana: How important is social bonding and for which ethnic group. *Substance Use and Misuse*, *34*(3), 317-346.
- Ellickson, P. L., McGuigan, K. A., Adams, V., Bell, R. M., & Hays, R. D. (1996). Teenagers and alcohol misuse in the United States: By any definition, it's a big problem. *Addiction*, *91*(10), 1489-1503.
- Emshoff, J. G. & Price, A. W. (1999). Prevention and intervention strategies with children of alcoholics. *Pediatrics*, *103*(5 Pt 2), 1112-1121.
- Ennett, S. T. & Bauman, K. E. (1991). Mediators in the relationship between parental and peer characteristics and beer drinking by early adolescents. *Journal of Applied Social Psychology*, *21*(20), 1699-1711.
- Ennett, S. T., Flewelling, R. L., Lindrooth, R. C., & Norton, E. C. (1997). School and neighborhood characteristics associated with school rates of alcohol, cigarette, and marijuana use. *Journal of Health and Social Behavior*, *38*(1), 55-71.

- Ennett, S. T., Tobler, N. S., Ringwalt, C. L., & Flewelling, R. L. (1994). How effective is drug abuse resistance education? A meta-analysis of Project DARE outcome evaluations. *American Journal of Public Health, 84*(9), 1394-1401.
- Ervin, C. S., Little, R. E., Streissguth, A. P., & Beck, D. E. (1984). Alcoholic fathering and its relation to child's intellectual development: A pilot investigation. *Alcoholism: Clinical and Experimental Research, 8*(4), 362-365.
- Escobedo, L. G., Reddy, M., & Giovino, G. A. (1998). The relationship between depressive symptoms and cigarette smoking in US adolescents. *Addiction, 93*(3), 433-440.
- Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996). The short-term consequences of early onset cannabis use. *Journal of Abnormal Child Psychology, 24*(4), 499-512.
- Figlio, D. & Ludwig, J. (2000). *Sex, drugs, and Catholic schools: Private schooling and non-market adolescent behaviors*. Cambridge, MA: National Bureau of Economic Research.
- Fiore, T. A. & Curtin, T. R. (1997). *Public and private school principals in the United States: A statistical profile, 1987-88 to 1993-94*. Washington, DC: U.S. Department of Education; National Center for Education Statistics.
- Forster, J. L., McGovern, P. G., Wagenaar, A. C., Wolfson, M., Perry, C. L., & Anstine, P. S. (1994). The ability of young people to purchase alcohol without age identification in northeastern Minnesota, USA. *Addiction, 89*(6), 699-705.
- Fothergill, K. & Ballard, E. (1998). The school-linked health center: A promising model of community-based care for adolescents. *Journal of Adolescent Health, 23*(1), 29-38.
- Frieberg, H. J. (1998). Measuring school climate: Let me count the ways. *Educational Leadership, 56*(1), 22-26.
- Fried, P. A. (1995). The Ottawa Prenatal Prospective Study (OPPS): Methodological issues and findings: It's easy to throw the baby out with the bath water. *Life Sciences, 56*(23-24), 2159-2168.
- Friedrich, M. J. (1999). Twenty-five years of school-based health centers. *JAMA, 281*(9), 781-782.

Gelpi, Y. (2000). Substance abuse in the 21st century: Positioning the nation for progress: Drug free schools: An American oxymoron. In Simi Valley, CA: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The Ronald Reagan Presidential Foundation and Center for Public Affairs.

Gerth, J. (1999, October 13). Harlan teachers could be first in state to get drug tests. *The Courier-Journal*, p. B01.

Goldbloom, D. S. (1993). Alcohol misuse and eating disorders: Aspects of an association. *Alcohol and Alcoholism*, 28(4), 375-381.

Goldstein, A. O., Sobel, R. A., & Newman, G. R. (1999). Tobacco and alcohol use in G-rated children's animated films. *JAMA*, 281(12), 1131-1136.

Golub, A. & Johnson, B. D. (2001). Variation in youthful risks of progression from alcohol and tobacco to marijuana and to hard drugs across generations. *American Journal of Public Health*, 91(2), 225-232.

Gonzales, S. K. (1999). *The controversy around hair drug testing in schools*. [On-line]. Retrieved October 3, 2000 from the World Wide Web: <http://www.health.org/pressrel/itn/rep/119.htm>.

Goodman, E. & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics*, 106(4), 748-755.

Gottfredson, D. C. (1997). School-based crime prevention. In L. W. Sherman, D. Gottfredson, D. MacKenzie, J. Eck, P. Reuter, & S. Bushway (Eds.), *Preventing crime: What works, what doesn't, what's promising: A report to the United States Congress* Washington, DC: U.S. Department of Justice, Office of Justice Programs.

Grant, B. F. & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiological Survey. *Journal of Substance Abuse*, 9, 103-110.

Gray, C. (2000, January 27). School: Test all students for drugs principal says parents back plan. *Times-Picayune*, p. A01.



- Greenblatt, J. C. (1998). *Adolescent self-reported behaviors and their association with marijuana use*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Greenblatt, J. C. (2000). *Patterns of alcohol use among adolescents and associations with emotional and behavioral problems*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Grossman, J. B. & Garry, E. M. (1997). *Mentoring: A proven delinquency prevention strategy*. Washington, DC: U.S. Department of Justice.
- Grover, P. K. (1999). *Preventing problems related to alcohol availability: Environmental approaches*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse and Prevention.
- Hall, W. & Solowij, N. (1998). Adverse effects of cannabis. *The Lancet*, 352(9140), 1611-1616.
- Hallfors, D., Sporer, A., Pankratz, M., & Godette, D. (2000). *Drug free schools survey: Report of results*. Chapel Hill, NC: University of North Carolina at Chapel Hill; School of Public Health.
- Hanna, E. Z. & Grant, B. F. (1999). Parallels to early onset alcohol use in the relationship of early onset smoking with drug use and DSM-IV drug and depressive disorders: Findings from the National Longitudinal Epidemiological Survey. *Alcoholism: Clinical and Experimental Research*, 23(3), 513-522.
- Hansen, W. B. (1996). *Prevention programs: What are the critical factors that spell success?* [On-line]. Retrieved July 15, 2001 from the World Wide Web: <http://www.nida.nih.gov>.
- Hanson, S. L. & Ginsburg, A. L. (1988). Gaining ground: Values and high school success. *American Educational Research Journal*, 25(3), 334-365.
- Hantman, I. & Crosse, S. (2000). *Progress in prevention: National study of local education agency activities under the Safe and Drug-Free Schools and Communities Act*. Washington, DC: Education Publications Center.
- Harrell, A., Cavanagh, S., & Sridharan, S. (1998). *Impact of the Children at Risk program: Comprehensive final report II*. Washington, DC: The Urban Institute.

- Harrison, P. A., Fulkerson, J. A., & Park, E. (2000). Relative importance of social versus commercial sources in youth access to tobacco, alcohol, and other drugs. *Preventive Medicine, 31*(1), 39-48.
- Hawkins, D. (1999). *More schools give urine tests for drugs - but at what costs?* [On-line]. Retrieved June 15, 1999 from the World Wide Web: <http://www.usnews.com/usnews/issues/990531/nycu/drugs.htm>.
- 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 Pediatric and Adolescent Medicine, 153*(3), 226-234.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.
- Hawkins, J. D. & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention, 6*(2), 73-97.
- Hegedus, A. M., Alterman, A. I., & Tarter, R. E. (1984). Learning achievement in sons of alcoholics. *Alcoholism: Clinical and Experimental Research, 8*(3), 330-333.
- Hirao, T., Nelson, H. H., Ashok, T. D. S., Wain, J. C., Mark, E. J., Christiani, D. C., Wiencke, J. K., & Kelsey, K. T. (2001). Tobacco smoke-induced DNA damage and an early age of smoking initiation induce chromosome loss at 3p21 in lung cancer. *Cancer Research, 61*(2), 612-615.
- Hoffman, J. P., Brittingham, A., & Larison, C. (1996). *Drug use among U.S. workers: Prevalence and trends by occupation and industry categories*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Hoffman, J. P. & Su, S. S. (1998). Parental substance use disorder, mediating variables and adolescent drug use: A non-recursive model. *Addiction, 93*(9), 1351-1364.
- Hogan, D. M. (1998). The psychological development and welfare of children of opiate and cocaine users: Review and research needs. *Journal of Child Psychology and Psychiatry, 39*(5), 609-620.

- Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. *International Journal of Eating Disorders*, 16(1), 1-34.
- Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000). Health problems in teenage daily smokers versus nonsmokers, Norway, 1995-1997: The Nord-Trondelag Health Study. *American Journal of Epidemiology*, 151(2), 148-155.
- Hu, T., Lin, Z., & Keeler, T. E. (1998). Teenage smoking, attempts to quit, and school performance. *American Journal of Public Health*, 88(6), 940-943.
- Hundleby, J. D. & Mercer, G. W. (1987). Family and friends as social environments and their relationship to young adolescents' use of alcohol, tobacco, and marijuana. *Journal of Marriage and the Family*, 49(1), 151-164.
- Institute of Medicine. (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.
- Iowa Strengthening Families. (2001). *Blueprints for violence prevention*. [On-line]. Retrieved July 15, 2001 from the World Wide Web:  
<http://www.colorado.edu/cspv/blueprints/promise/iowa.htm>
- Jacob, T., Windle, M., Seilhamer, R. A., & Bost, J. (1999). Adult children of alcoholics: Drinking, psychiatric, and psychosocial status. *Psychology of Addictive Behaviors*, 13(1), 3-21.
- Jacobson, S. W. (1999). Assessing the impact of maternal drinking during and after pregnancy. *Alcohol Health and Research World*, 21(3), 199-203.
- Jaffe, S. (1998). Adolescent substance abuse: Assessment and treatment. In A.H. Esman & L. T. Flaherty (Eds.), *Adolescent psychiatry: Developmental and clinical studies*, vol. 23. (pp. 61-71). Hillsdale, NJ: The Analytic Press, Inc.
- Jensen, J. N. (2000). Don't rush to abandon a suspicion-based standard for searches of public school students. *Brigham Young University Law Review*, 2, 695-711.
- Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Journal of Adolescent Health*, 12(8), 597-605.

- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development*. New York: Cambridge University Press.
- Jessor, R. & Jessor, S. (1977). *Problem behavior and psychosocial development: A longitudinal study*. New York: Academic Press.
- Johnson, D. L., Swank, P. R., Baldwin, C. D., & McCormick, D. (1999). Adult smoking in the home environment and children's IQ. *Psychological Reports, 84*(1), 149-154.
- Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000). Association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *JAMA, 284*(18), 2348-2351.
- Johnson, J. L. & Leff, M. (1999). Children of substance abusers: Overview of research findings. *Pediatrics, 103*(5 Supplement), 1085-1099.
- Johnson, P. B. & Johnson, H. L. (2000). Reaffirming the power of parental influence on adolescent smoking and drinking decisions. *Adolescent and Family Health, 1*(1), 37-43.
- Johnson, P. B. & Richter, L. (In press). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health*.
- Johnson, R. A., Hoffmann, J. P., & Gerstein, D. R. (1996). *The relationship between family structure and adolescent substance use*. Washington, DC.: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.
- Johnston, L., O'Malley, P. M., Bachman, J. G. (1998). *National survey results on drug use from the Monitoring the Future Study, 1975-1997, volume 1: Secondary school students*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.
- Johnston, L., O'Malley, P. M., & Bachman, J. G. (1999). *National survey results on drug use from the Monitoring the Future Study, 1975-1998, volume 1: Secondary school students*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000). *The Monitoring the Future national results on adolescent drug use: Overview of key findings, 1999*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2001). *The Monitoring the Future national results on adolescent drug use: Overview of key findings, 2000*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.
- Jones-Webb, R., Toomey, T., Miner, K., Wagenaar, A. C., Wolfson, M., & Poon, R. (1997). Why and in what context adolescents obtain alcohol from adults: A pilot study. *Substance Use and Misuse, 32*(2), 219-228.
- Joy, J. E., Watson, S. J., & Benson, J. A. (1999). *Marijuana and medicine: Assessing the science base*. Washington, DC: Institute of Medicine.
- Kandel, D. B. (1990). Parenting styles, drug use, and children's adjustment in families of young adults. *Journal of Marriage and the Family, 52*(1), 183-196.
- Kandel, D. B. (1996). The parental and peer contexts of adolescent deviance: An algebra of interpersonal influences. *Journal of Drug Issues, 26*(2), 289-315.
- Kandel, D. B. & Andrews, K. (1987). Processes of adolescent socialization by parents and peers. *International Journal of the Addictions, 22*(4), 319-342.
- Kandel, D. B., Davies, M., Karus, D., & Yamaguchi, K. (1986). The consequences in young adulthood of adolescent drug involvement. *Archives of General Psychiatry, 43*(8), 746-754.
- Kandel, D. B., Johnson, J. G., Bird, H. R., Weissman, M. M., Goodman, S. H., Lahey, B. B., Regier, D. A., & Schwab-Stone, M. E. (1999). Psychiatric comorbidity among adolescents with substance use disorders: Findings from the MECA study. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(6), 693-699.
- Kansas State University. (1996). *Drug testing in schools violates rights, expert says*. [On-line]. Retrieved September 6, 2000 from the World Wide Web: <http://www.newss.ksu.edu/WEB/news/newsreleases/drugtesting.html>.

- Kaplan , H. B. (1995). Drugs, crime, and other deviant adaptations. In H. B. Kaplan (Ed.), *Drugs, crime, and other deviant adaptations* (pp. 3-46). New York: Plenum.
- Kendall-Tackett, K. & Eckenrode, J. (1996). The effects of neglect on academic achievement and disciplinary problems: A developmental perspective. *Child Abuse and Neglect*, 20(3), 161-169.
- Ketterlinus, R. D., Henderson, S., & Lamb, M. E. (1991). The effects of maternal age-at-birth on children's cognitive development. *Journal of Research on Adolescence*, 1(2), 173-188.
- Klein, R. J. & Schoenborn, C. A. (2001). *Age adjustment using the 2000 projected U.S. population*. (Rep. No. 20). Hyattsville, MD: National Center for Health Statistics.
- Knight, D. (1999, October 15). Teachers might sue to stop drug tests. *The Indianapolis Star*, p. 01.
- Knop, J., Teasdale, T. W., Schulsinger, F., & Goodwin, D. W. (1985). A prospective study of young men at high risk for alcoholism: School behavior and achievement. *Journal of Studies on Alcohol*, 46(4), 273-278.
- Knox County Education Association v. Knox County Board of Education*, 158 F.3d 361 (6th Cir. 1998).
- Komro, K. A., Perry, C. L., Murray, D. M., Veblen-Mortenson, S., Williams, C. L., & Anstine, P. S. (1996). Peer-planned social activities for preventing alcohol use among young adolescents. *Journal of School Health*, 66(9), 328-334.
- Koop, C. E. (1998). *Remarks concerning the McCain-Hollings Bill (s.1415)*. [On-line]. Retrieved June 28, 2001 from the World Wide Web: <http://www.smokinglungs.com/koop1415.htm>.
- Krahn, D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse*, 3(2), 239-253.
- Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse*, 4(4), 341-353.

- Kumpfer, K. L. (1999). *Identification of drug abuse prevention programs. Literature review.* [On-line]. Retrieved July 15, 2001 from the World Wide Web: <http://www.nida.nih.gov>.
- Kumpfer, K. L. & DeMarsh, J. (1986). Family environment and genetic influences on children's future chemical dependency. In S. Griswold-Ezekoye, K. L. Kumpfer, & W. J. Bukoski (Eds.), *Childhood and chemical abuse: Prevention and intervention* (pp. 49-91). New York: Haworth Press.
- Kumpfer, K. L., DeMarsh, J. P., & Child, W. (1989). *Strengthening families program: Children's skills training, parent training, and family skills training manuals.* University of Utah: Social Research Institute, Graduate School of Social Work.
- Lai, S., Lai, H., Page, J. B., & McCoy, C. B. (2000). The association between cigarette smoking and drug abuse in the United States. *Journal of Addictive Diseases, 19*(4), 11-24.
- Lando, H. A., Thai, D. T., Murray, D. M., Robinson, L. A., Jeffery, R. W., Sherwood, N. E., & Henrikus, D. J. (1999). Age of initiation, smoking patterns, and risk in a population of working adults. *Preventive Medicine, 29*(6), 590-598.
- Lane, J., Gerstein, D., Huang, L., & Wright, D. (1998). *Risk and protective factors for adolescent drug use: Findings from the 1997 National Household Survey on Drug Abuse.* [On-line]. Retrieved August 15, 2001 from the World Wide Web: <http://www.samhsa.gov/hhsurvey/hhsurvey.html>.
- Leech, S. L., Richardson, G. A., Goldschmidt, L., & Day, N. L. (1999). Prenatal substance exposure: Effects on attention and impulsivity of 6-year-olds. *Neurotoxicology and Teratology, 21*(2), 109-118.
- Lerner, R. M., Ostrom, C. W., & Freel, M. A. (1997). Preventing health-compromising behaviors among youth and promoting their positive development: A developmental contextual perspective. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 498-521). New York: Cambridge University Press.
- Lewinsohn, P. M., Brown, R. A., Seeley, J. R., & Ramsey, S. E. (2000). Psychosocial correlates of cigarette smoking abstinence, experimentation, persistence and frequency during adolescence. *Nicotine and Tobacco Research, 2*(2), 121-131.
- London, P. (1987). Character education and clinical intervention: A paradigm shift for U.S. schools. *Phi Delta Kappan, 68*(9), 667-673.

- Lonkevich, S. (2001). *The moral classroom*. [On-line]. Retrieved June 27, 2001 from the World Wide Web: <http://www.upenn.edu/gazette/0501/lonkevich.html>.
- Luke, D. A., Stamatakis, K. A., & Brownson, R. C. (2000). State youth-access tobacco control policies and youth smoking behavior in the United States. *American Journal of Preventive Medicine, 19*(3), 180-187.
- Lynam, D. R., Milich, R., Zimmermann, R., Novak, S. P., Logan, T. K., Martin, C., Leukefeld, C., & Clayton, R. (1999). Project DARE: No effects at 10-year follow-up. *Journal of Consulting and Clinical Psychology, 67*(4), 590-593.
- Lynskey, M. & Hall, W. (2000). The effects of adolescent cannabis use on educational attainment: A review. *Addiction, 95*(11), 1621-1630.
- Maggs, J. L., Schulenberg, J., & Hurrelmann, K. (1997). Developmental transitions during adolescence: Health promotion implications. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 522-547). New York: Cambridge University Press.
- Market Data Retrieval. (1999). America's classrooms approach the new millenium. *Data Points: Marketing News from Market Data Retrieval, 8*(4), 1-5.
- Mathias, R. (2001). *"Ecstasy" damages the brain and impairs memory in humans*. [On-line]. Retrieved June 3, 2001 from the World Wide Web: [http://www.nida.nih.gov/NIDA\\_Notes/NNVol14N4/Ecstasy.html](http://www.nida.nih.gov/NIDA_Notes/NNVol14N4/Ecstasy.html).
- Mattson, S. N., Goodman, A. M., Delis, D. C., Caine, C., & Riley, E. P. (1999). Executive functioning in children with heavy prenatal alcohol exposure. *Alcoholism: Clinical and Experimental Research, 23*(11), 1808-1815.
- McGrath, C. E., Watson, A. L., & Chassin, L. (1999). Academic achievement in adolescent children of alcoholics. *Journal of Studies on Alcohol, 60*(1), 18-26.
- McLaughlin, T. F. & Vacha, E. F. (1993). Substance abuse prevention in the schools: Roles for the school counselor. *Elementary School Guidance and Counseling, 28*(2), 124-132.
- Menaghan, E. G., Kowaleski-Jones, L., & Mott, F. L. (1997). The intergenerational costs of parental social stressors: Academic and social difficulties in early adolescence for children of young mothers. *Journal of Health and Social Behavior, 38*(1), 72-86.



- Milberger, S., Biederman, J., Faraone, S. V., & Jones, J. (1998). Further evidence of an association between maternal smoking during pregnancy and attention deficit hyperactivity disorder. *Journal of Clinical Child Psychology, 27*(3), 352-358.
- Milgram, G. G. (1998). An analysis of student assistance programs: Connecticut, New Jersey, and New York. *Journal of Drug Education, 28*(2), 107-116.
- Molina, B. S. G., Smith, B. H., & Pelham, W. E. (1999). Interactive effects of attention deficit hyperactivity disorder and conduct disorder on early adolescent substance use. *Psychology of Addictive Behaviors, 13*(4), 348-358.
- Morgan, M. J. (1999). Memory deficits associated with recreational use of "Ecstasy" (MDMA). *Psychopharmacology, 141*(1), 30-36.
- Mosteller, F. (1995). The Tennessee study of class size in the early school grades. *Future of Children, 5*(2), 113-127.
- Musser, C. J., Ahmann, P. A., Theye, F. W., Mundt, P., Broste, S. K., & Mueller-Rizner, N. (1998). Stimulant use and the potential for abuse in Wisconsin as reported by school administrators and longitudinally followed children. *Journal of Developmental and Behavioral Pediatrics, 19*(3), 187-92.
- National Association of Student Assistance Professionals. (2001). *Student assistance program components*. [On-line]. Retrieved June 22, 2001 from the World Wide Web: <http://www.nasap.org/components.htm>.
- National Center for Education Statistics. (1996a). *Schools and staffing in the United States: A statistical profile, 1993-1994*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- National Center for Education Statistics. (1996b). *The Condition of education: Public and private schools: How do they differ?* [On-line]. Retrieved August 16, 2001 from the World Wide Web: <http://nces.ed.gov/nces/pubs/ce/c97006.html>.
- National Center for Education Statistics. (1998). *Violence and discipline problems in U.S. public schools: 1996-97*. [On-line]. Retrieved August 10, 2000 from the World Wide Web: <http://nces.ed.gov>.

- National Center for Education Statistics. (1999a). *Digest of education statistics. Chapter 2: Elementary and secondary education*. [On-line]. Retrieved June 8, 2001 from the World Wide Web: <http://nces.ed.gov>.
- National Center for Education Statistics. (1999b). *Indicators of school crime and safety*. [On-line]. Retrieved September 7, 1999 from the World Wide Web: <http://www.nces.ed.gov/pubsearch/pubsinfo.asp?pubid=1999057>.
- National Center for Education Statistics. (2000). *Federal support for education: Fiscal years 1980 to 2000*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- National Conference of State Legislatures. (1999). *Juvenile justice state legislation in 1999 state legislation*. [On-line]. Retrieved June 11, 2001 from the World Wide Web: <http://www.ncsl.org/programs/econ/99jj.htm>.
- National Council on Alcohol and Drug Dependence. (1992). *Fact sheet: Alcohol and other drugs in the workplace*. [On-line]. Retrieved May 10, 2001 from the World Wide Web: <http://www.ncadd.org/facts/workplac.html>.
- National Education Goals Panel. (1999). *The national education goals report: Building a nation of learners, 1999*. Washington, DC: U.S. Government Printing Office.
- National Institute on Drug Abuse. (1998). *Employee drug screening and detection of drug use by urinalysis*. Rockville, MD: U.S. Department of Health and Human Services.
- National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction*. [On-line]. Retrieved June 29, 2001 from the World Wide Web: <http://www.nida.nih.gov/ReseachReports/Prescription/prescription5.html>.
- Newcomb, M. (1993). Understanding the multi-dimensional nature of drug use and abuse: The role of consumption risk factors and protective factors. In M. Glantz & R. Pickens (Eds.), *Vulnerability to drug abuse*. Washington, DC: American Psychological Association.
- Newcomb, M. D. & Bentler, P. M. (1986). Substance use and ethnicity: Differential impact of peer and adult models. *Journal of Psychology*, 120(1), 83-95.
- Newcomb, M. D. & Bentler, P. M. (1988). *Consequences of adolescent drug use: Impact on the lives of young adults*. Newbury Park, CA: Sage.

- Newcomb, M. D. & Felix-Ortiz, M. (1992). Multiple protective and risk factors for drug use and abuse: Cross-sectional and prospective findings. *Journal of Personality and Social Psychology*, 63(2), 280-296.
- New Jersey v. T.L.O.* (1-15-1985). 469 U.S. 325 (1985).
- Normand, J., Salyards, S. D., & Mahoney, J. J. (1990). An evaluation of pre-employment drug testing. *Journal of Applied Psychology*, 75(6), 629-639.
- North Central Regional Educational Laboratory. (2001). *Critical issue: Restructuring schools to support school-linked services*. [On-line]. Retrieved June 1, 2001 from the World Wide Web: <http://www.ncrel.org/sdrs/areas/issues/envrnmnt/css/cs100.htm>.
- Oetting, E. R. & Beauvais, F. (1987a). Common elements in youth drug abuse: Peer clusters and other psychosocial factors. *Journal of Drug Issues*, 17(1 & 2), 133-151.
- Oetting, E. R. & Beauvais, F. (1987b). Peer cluster theory, socialization characteristics, and adolescent drug use: A path-analysis. *Journal of Counseling Psychology*, 34(2), 205-213.
- Oetting, E. R. & Beauvais, F. (1990). Adolescent drug use: Findings of national and local surveys. *Journal of Consulting and Clinical Psychology*, 58(4), 385-394.
- Oetting, E. R. & Donnermeyer, J. F. (1998). Primary socialization theory: The etiology of drug use and deviance. Part I. *Substance Use and Misuse*, 33(4), 995-1026.
- Oetting, E. R., Donnermeyer, J. F., & Deffenbacher, J. L. (1998). Primary socialization theory: The influence of the community on drug use and deviance. *Substance Use and Misuse*, 33(8), 1629-1665.
- Office of Elementary and Secondary School Services. (1998). *Performance report (1997-1998): Commonwealth of Pennsylvania student assistance program*. Harrisburg, PA: Office of Elementary and Secondary School Services.
- Office of the Inspector General. (1991). *Youth and alcohol: A national survey, drinking habits, access, attitudes, and knowledge*. Washington, DC: U.S. Department of Health and Human Services.

- Olson, A., Vanaman, S., & White, D. (2000). *Cody CAN - Can you?* [On-line]. Retrieved July 2, 2001 from the World Wide Web: <http://www.codycan.com>.
- Patton, G. C., Carlin, J. B., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998). Depression, anxiety, and smoking initiation: A prospective study over 3 years. *American Journal of Public Health, 88*(10), 1518-1522.
- Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Caust, J., & Bowes, G. (1996). Is smoking associated with depression and anxiety in teenagers? *American Journal of Public Health, 86*(2), 225-230.
- Pentz, M. A., Trebow, E. A., Hansen, W. B., MacKinnon, D. P., Dwyer, J. H., & Johnson, C. A. (1990). Effects of program implementation on adolescent drug use behavior: The Midwestern Prevention Project (MPP). *Education Review, 14*(3), 264-289.
- Perry, C. L. & Kelder, S. H. (1992). Models for effective prevention. *Journal of Adolescent Health, 13*(5), 355-363.
- Petratis, J., Flay, B. R., Miller, T. Q., Torpy, E. J., & Greiner, B. (1998). Illicit substance use among adolescents: A matrix of prospective predictors. *Substance Use and Misuse, 33*(13), 2561-2604.
- Plucker, J. A. (1998). The relationship between school climate conditions and student aspirations. *Journal of Educational Research, 91*(4), 240-246.
- Powledge, T. M. (1999). *Addiction and the brain*. [On-line]. Retrieved August 10, 2000 from the World Wide Web: [http://www.findarticles.com/cf\\_0/m1042/7\\_49/55294937/pl/article.jhtml](http://www.findarticles.com/cf_0/m1042/7_49/55294937/pl/article.jhtml).
- Preusser, D. & Williams, A. (1992). Sales of alcohol to underage purchasers in three New York counties and Washington, DC. *Journal of Public Health Policy, 13*(3), 306-317.
- Raywid, M. A. (1997). Small schools: A reform that works. *Educational Leadership, 55*(4), 34-39.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA, 278*(10), 823-832.

- Reyes, O., Gillock, K., & Kobus, K. (1994). A longitudinal study of school adjustment in urban, minority adolescents: Effects of a high school transition program. *American Journal of Community Psychology, 22*(3), 341-369.
- Richardson, G. A. (1998). Prenatal cocaine exposure: A longitudinal study of development. *Annals of the New York Academy of Sciences, 846*, 144-152.
- Richter, L. & Johnson, P. B. (In press). Current methods of assessing substance use: A review of strengths, problems, and developments. *Journal of Drug Issues*.
- Richter, L. & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.
- Roberts, D. F., Henriksen, L., & Christenson, P. G. (1999). *Substance use in popular movies and music*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration; Office of National Drug Control Policy.
- Robins, L. N. (1984). The natural history of adolescent drug use. *American Journal of Public Health, 74*(7), 656-657.
- Robinson, L. A., Klesges, R. C., Zbikowski, S. M., & Glaser, R. (1997). Predictors of risk for different stages of adolescent smoking in a biracial sample. *Journal of Consulting and Clinical Psychology, 65*(4), 653-662.
- Rohde, P., Lewinsohn, P. M., Kahler, C. W., Seeley, J. R., & Brown, R. A. (2001). Natural course of alcohol use disorders from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(1), 83-90.
- Rosenbaum, M. (1998). "Just Say Know" to teenagers and marijuana. *Journal of Psychoactive Drugs, 30*(2), 197-203.
- Rountree, P. W. & Clayton, R. R. (1999). A contextual model of adolescent alcohol use across the rural-urban continuum. *Substance Use and Misuse, 34*(4&5), 495-519.
- Safer, D. J., Zito, J. M., & Fine, E. M. (1996). Increased methylphenidate usage for attention deficit disorder in the 1990's. *Pediatrics, 98*(6), 1084-1088.

- Sampson, R. J. (1985). Neighborhood and crime: The structural determinants of personal victimization. *Journal of Research in Crime and Delinquency*, 22(2), 7-40.
- Saner, H. & Ellickson, P. (1996). Concurrent risk factors for adolescent violence. *Journal of Adolescent Health*, 19(2), 94-103.
- Saucier, H. (2000). *For kids, by kids: Teens create program to fight drugs*. [On-line]. Retrieved June 22, 2001 from the World Wide Web: <http://www.mapinc.org/drugnews/v00.n172.a07.html>.
- Schandler, S. L., Brannock, J. G., Cohen, M. J., Antick, J., & Caine, K. (1988). Visuospatial learning in elementary school children with and without a family history of alcoholism. *Journal of Studies on Alcohol*, 49(6), 538-545.
- Schoggen, P. & Schoggen, M. (1988). Student voluntary participation and high school size. *Journal of Educational Research*, 81(5), 288-293.
- Scott, D. M., Surface, J. L., Friedli, D., & Barlow, T. W. (1999). Effectiveness of student assistance programs in Nebraska schools. *Journal of Drug Education*, 29(2), 165-174.
- Sher, K. J. (1991). *Children of alcoholics: A critical appraisal of theory and research*. Chicago, IL: University of Chicago Press.
- Sher, K. J., Walitzer, K. S., Wood, P. K., & Brent, E. E. (1991). Characteristics of children of alcoholics: Putative risk factors, substance use and abuse, and psychopathology. *Journal of Abnormal Psychology*, 100(4), 427-448.
- Sheridan, J. & Winkler, H. (1989). *An analysis of the work-related behaviors of substance abusers: Drugs in the Workplace: Research and Evaluation Data: NIDA research monograph 100*. Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse.
- Shore, R. (1995). *The current state of high school reform*. [On-line]. Retrieved August 10, 2001 from the World Wide Web: <http://www.carnegie.org/>.
- Silvia, E. & Thorne, J. (1997). *School-based drug prevention programs: A longitudinal study in selected school districts*. Washington, DC: U.S. Department of Education.

- Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999). Student-school bonding and adolescent problem behavior. *Health Education and Research, 14*(1), 99-107.
- Simons-Morton, B. G., Haynie, D. L., Crump, A. D., Eitel, P., & Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.
- Smith, A. E., Jussim, L., & Eccles, J. (1999). Do self-fulfilling prophecies accumulate, dissipate, or remain stable over time. *Journal of Personality and Social Psychology, 77*(3), 548-565.
- Sonntag, H., Wittchen, H. U., Hofler, M., Kessler, R. C., & Stein, M. B. (2000). Are social fears and DSM-IV social anxiety disorder associated with smoking and nicotine dependence in adolescents and young adults. *European Psychiatry, 15*(1), 67-74.
- Sowder, B. J. & Burt, M. R. (1986). *Children of addicts and non-addicts: A comparative investigation in five urban sites*. Rockville, MD: National Institute on Drug Abuse.
- Stanger, C., Higgins, S. T., Bickel, W. K., Elk, R., Grabowski, J., Schmitz, J., Amass, L., Kirby, K. C., & Seracini, A. M. (1999). Behavioral and emotional problems among children of cocaine- and opiate-dependent parents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(4), 421-428.
- Stein, M. & Thorkildsen, R. (1999). *Parental involvement in education: Insights and applications from the research*. Bloomington, IN: Phi Delta Kappa.
- Streissguth, A. P., Barr, H. M., Bookstein, F. L., Sampson, P. D., & Olson, H. C. (1999). The long-term neurocognitive consequences of prenatal alcohol exposure: A 14-year study. *Psychological Science, 10* (3), 186-190.
- Streissguth, A. P., Barr, H. M., & Sampson, P. D. (1990). Moderate prenatal alcohol exposure: Effects on child IQ and learning problems at age 7 1/2 years. *Alcoholism: Clinical and Experimental Research, 14*, 662-669.
- Streissguth, A. P., Barr, H. M., Sampson, P. D., Bookstein, F. L., & Burgess, D. M. (1994). Drinking during pregnancy decreases word attack and arithmetic scores on standardized tests: Adolescent data from a population-based prospective study. *Alcoholism: Clinical and Experimental Research, 18*(2), 248-254.

- Stronski, S. M., Ireland, M., Michaud, P., Narring, F., & Resnick, M. D. (2000). Protective correlates of stages in adolescent substance use: A Swiss national study. *Journal of Adolescent Health, 26*(6), 420-427.
- Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997). The effect of home environment on adolescent substance abuse and depressive symptoms. *Journal of Drug Issues, 27*(4), 851-877.
- Substance Abuse and Mental Health Services Administration. (2000). *Summary of findings from the 1999 National Household Survey on Drug Abuse*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service.
- Substance Abuse and Mental Health Services Administration. (2001a). *Risk and protective factors for adolescent drug use: Findings from the 1997 National Household Survey on Drug Abuse*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Substance Abuse and Mental Health Services Administration. (2001b). *Year-end 2000 emergency department data from the Drug Abuse Warning Network*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Sussman, S., Lichtman, K., Ritt, A., & Pallonen, U. E. (1999). Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Substance Use and Misuse, 34*(11), 1469-1503.
- Swartzwelder, H. S., Wilson, W. A., & Tayyeb, M. I. (1995). Differential sensitivity of NMDA receptor-mediated synaptic potentials to ethanol in immature versus mature hippocampus. *Alcoholism: Clinical and Experimental Research, 19*(2), 320-323.
- Tanda, G., Pontieri, F. E., & Di Chara, G. (1997). Cannabinoid and heroin activation of mesolimbic dopamine transmission by common u1 opioid receptor mechanism. *Science, 276*(5321), 2048-2050.
- Tanner, J., Davies, S., & O'Grady, B. (1999). Whatever happened to yesterday's rebels? Longitudinal effects of youth delinquency on education and employment. *Social Problems, 46*(2), 250-274.
- Tapert, S. F. & Brown, S. A. (2000). Substance dependence, family history of alcohol dependence and neuropsychological functioning in adolescence. *Addiction, 95*(7), 1043-1053.



Tashjian, C. A., Silvia, E. S., & Thorne, J. (1996). *School-based drug prevention programs: A longitudinal study in selected school districts: Local education agency cross-site analysis. Final report.* Research Triangle Park, N. C.: Research Triangle Institute.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1996). *National survey of American attitudes on substance abuse II: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997a). *Back to school 1997 -- National survey of American attitudes on substance abuse III: Teens and their parents, teachers and principals.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997b). *Substance abuse and the American Adolescent.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998). *Back to school 1998 -- National survey of American attitudes on substance abuse IV: Teens, teachers and principals.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999a). *Back to school 1999 -- National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999b). *Non-medical marijuana: Rite of passage or Russian roulette?* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000a). *No place to hide: Substance abuse in mid-size cities and rural America.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000b). *Winning at any cost: Doping in Olympic sports.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

- The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000c). *Substance abuse and learning disabilities: Peas in a pod or apples and oranges?* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.
- The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.
- Thombs, D. L., Wolcott, B. J., & Farkash, L. G. (1997). Social context, perceived norms and drinking behavior in young people. *Journal of Substance Abuse, 9*, 257-267.
- Timmerman, M. G., Wells, L. A., & Chen, S. (1990). Bulimia nervosa and associated alcohol abuse among secondary school students. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*(1), 118-122.
- Tobias, A. K. & Myrick, R. D. (1999). A peer facilitator-led intervention with middle school problem-behavior students. *Professional School Counseling, 3*(1), 27-33.
- Tomeo, C. A., Field, A. E., Berkey, C. S., Colditz, G. A., & Frazier, A. L. (1999). Weight concerns, weight control behaviors, and smoking initiation. *Pediatrics, 104*(4 Pt 1), 918-924.
- UCLA Mental Health in Schools Training and Technical Assistance Center. (2000). Substance abuse prevention: Toward comprehensive multifaceted approaches: Addressing barriers to learning. *Mental Health in Schools: Training and Technical Assistance Newsletter, 5*(3), 1-7.
- Ungless, M. A., Whistler, J. L., Malenka, R. C., & Bonci, A. (2001). Single cocaine exposure in vivo induces long-term potentiation in dopamine neurons. *Nature, 411*(3), 583-587.
- U.S. Department of Education. (1996). *Creating safe and drug-free schools: Drug testing student athletes*. [On-line]. Retrieved June 11, 2001 from the World Wide Web: <http://www.ed.gov/offices/OESE/SDFS/actguid/drugath.html>.
- U.S. Department of Education. (1998a). *Objective 1.3. Schools are strong, safe, disciplined, and drug-free*. [On-line]. Retrieved September 7, 1999 from the World Wide Web: <http://www.ed.gov/pubs/AnnualPlan/obj1-3.html>.

- U.S. Department of Education. (1998b). *Safe and Drug-Free Schools and Communities Act, State grants for drug and violence prevention program*. U.S. Department of Education, Office of Elementary and Secondary Education.
- U.S. Department of Education. (2000a). *Educational Excellence for All Children Act of 1999*. [On-line]. Retrieved January 2, 2001 from the World Wide Web:  
<http://www.ed.gov/offices/OESE/ESEA/>.
- U.S. Department of Education. (2000b). *About the Safe and Drug-Free Schools Program*. [On-line]. Retrieved May 16, 2001 from the World Wide Web:  
<http://www.ed.gov/offices/OESE/SDFS/aboutsdf.html>.
- U.S. Department of Education. (2000c). *Working for children and families: Safe and smart after school programs. Chapter 2: What works: Components of exemplary after-school programs*. [On-line]. Retrieved June 28, 2001 from the World Wide Web:  
<http://www.ed.gov/pubs/parents/SafeSmart/>.
- U.S. Department of Education. (2001a). *Department of Education fiscal year 2002 President's Budget*. [On-line]. Retrieved August 8, 2001 from the World Wide Web:  
<http://www.ed.gov/offices/OUS.Budget02>.
- U.S. Department of Education. (2001b). *Safe and Drug Free Schools Program: Fiscal year 2000 budget*. [On-line]. Retrieved May 15, 2001 from the World Wide Web:  
<http://www.ed.gov/offices/OUS/budnews.html#action>.
- U.S. Department of Education. (2001c). *Budget history table of the Education Department since FY 1980*. [On-line]. Retrieved July 10, 2001 from the World Wide Web:  
<http://www.ed.gov/offices/OUS/budnews.html#action>.
- U.S. Department of Health and Human Services. (1988). *The health consequences of smoking: Nicotine addiction: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention.
- U.S. Department of Health and Human Services and Office of the Assistant Secretary for Planning and Evaluation. (1997). *Trends in the well-being of America's children and youth*. Washington, DC: U.S. Department of Health and Human Services; Office of the Assistant Secretary for Planning and Evaluation.

- U.S. Department of Justice. (1995). *Urban delinquency and substance abuse, initial findings: Research summary*. Washington, DC: U.S. Department of Justice.
- Vaishnav, A. (2001, July 19). Drug-free zones questioned: Study says law failed to stop sale near schools. *Boston Globe*, p. B4.
- Vallas, P. (2000). Substance abuse in the 21st century: Positioning the nation for progress: Drug free schools: An American oxymoron. In Simi Valley, CA: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The Ronald Reagan Presidential Foundation and Center for Public Affairs.
- Van Dyke, D. C. & Fox, A. A. (1990). Fetal drug exposure and its possible implications for learning in the preschool and school-age population. *Journal of Learning Disabilities*, 23(3), 160-163.
- Vernonia School District v. Acton*. (6-26-1995). 515 U.S. 646 (1995).
- Vicini, J. (1999). *Supreme Court allows drug tests for new teachers*. [On-line]. Retrieved October 4, 1999 from the World Wide Web: [http://dailynews.yahoo.com/h/nm/19991004/ts/court\\_drugs\\_1.html](http://dailynews.yahoo.com/h/nm/19991004/ts/court_drugs_1.html).
- Wagenaar, A. C., Toomey, T. L., Murray, D. M., Short, B. J., Wolfson, M., & Jones-Webb, R. (1996). Sources of alcohol for underage drinkers. *Journal of Studies on Alcohol*, 57(3), 325-333.
- Wagner, E. F., Dinklage, S. C., Cudworth, C., & Vyse, J. (1999). A preliminary evaluation of the effectiveness of a standardized student assistance program. *Substance Use and Misuse*, 34(11), 1571-1584.
- Wakefield, M. A., Chaloupka, F. J., Kaufman, N. J., Orleans, C. T., Barker, D. C., & Ruel, E. E. (2000). Effect of restrictions on smoking at home, at school, and in public places on teenage smoking: Cross sectional study. *British Medical Journal*, 321(7257), 333-337.
- Washington Kids Count. (2000a). *Impact of peer substance use on middle school performance in Washington*. Seattle, WA: University of Washington Human Services Policy Center.
- Washington Kids Count. (2000b). *The impact of peer substance use on middle school performance in Washington State: Press Release*. [On-line]. Retrieved July 2, 2001 from the World Wide Web: [http://hspsc.org/wkc/special/reports/peer\\_sub\\_091200.html](http://hspsc.org/wkc/special/reports/peer_sub_091200.html).

- Wechsler, H., Kuo, M., Lee, H., & Dowdall, G. W. (2000). Environmental correlates of underage alcohol use and related problems of college students. *American Journal of Preventive Medicine, 19*(1), 24-29.
- Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999). College alcohol use: A full or empty glass? *Journal of American College Health, 47*(6), 247-252.
- Weinberg, N. Z. (1997). Cognitive and behavioral deficits associated with parental alcohol use. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(9), 1177-1186.
- Weissman, M. M., Warner, V., Wickramaratne, P. J., & Kandel, D. B. (1999). Maternal smoking during pregnancy and psychopathology in offspring followed to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(7), 892-899.
- Weitzman, M., Gortmaker, S., & Sobol, A. (1992). Maternal smoking and behavior problems of children. *Pediatrics, 90*(3), 342-349.
- Weller, N. F., Tortolero, S. R., Kelder, S. H., Grunbaum, J. A., Carvajal, S. C., & Gingiss, P. M. (1999). Health risk behaviors of Texas students attending dropout prevention/recovery schools in 1997. *Journal of School Health, 69*(1), 22-28.
- Wichstrom, L. (1998). Alcohol intoxication and school dropout. *Drug and Alcohol Review, 17*(4), 413-421.
- Wickelgren, I. (1997). Marijuana: Harder than thought? *Science, 276*(5321), 1967-1968.
- Wiencke, J. K., Thurston, S. W., Kelsey, K. T., Varkonyi, A., Wain, J. C., Mark, E. J., & Christiani, D. C. (1999). Early age at smoking initiation and tobacco carcinogen DNA damage in the lung. *Journal of the National Cancer Institute, 91*(7), 614-619.
- Wills, T. A. & Cleary, S. D. (1999). Peer and adolescent substance use among 6th-9th graders: Latent growth analyses of influence versus selection mechanisms. *Health Psychology, 18*(5), 453-463.
- Wills, T. A., Mariani, J., & Filer, M. (1996). The role of family and peer relationships in adolescent substance use. In G. R. Pierce, B. R. Saraon, & I. G. Sarason (Eds.), *Handbook of social support and the family* (pp. 521-549). New York: Plenum.

- Wills, T. A., Vaccaro, D., & McNamara, G. (1992). Role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*(3), 349-374.
- Wilson, J. R. (1992). Bulimia nervosa: Occurrence with psychoactive substance use disorders. *Addictive Behaviors, 17*(6), 603-607.
- Windle, M. (1994). A study of friendship characteristics and problem behaviors among middle adolescents. *Child Development, 65*(6), 1764-1777.
- Wirt, J. (1998). *The condition of education, 1998*. Washington, DC: National Center for Health Statistics.
- Wu, L. T. & Anthony, J. C. (1999). Tobacco smoking and depressed mood in late childhood and early adolescence. *American Journal of Public Health, 89*(12), 1837-1840.
- Wuethrich, B. (2001). Getting stupid. *Discover, 22*(3), 57-63.
- Wynne, E. A. & Hess, M. (1986). Long-term trends in youth conduct and the revival of traditional value patterns. *Educational Evaluation and Policy Analysis, 8*(3), 294-308.
- Young, N. K. (1997). Effects of alcohol and other drugs on children. *Journal of Psychoactive Drugs, 29*(1), 23-42.
- Zakzanis, K. K. & Young, D. A. (2001). Memory impairment in abstinent MDMA ("Ecstasy") users: A longitudinal investigation. *Neurology, 56*(7), 966-969.