Dropout Risk Factors and Exemplary Programs

A Technical Report

National Dropout Prevention Center/Network

Communities In Schools

DROPOUT RISK FACTORS AND EXEMPLARY PROGRAMS

A TECHNICAL REPORT

Principal Author
Cathy Hammond, Research Associate
National Dropout Prevention Center/Network

Contributing Authors
Dan Linton, Director of Research and Evaluation
Communities In Schools, Inc.

Jay Smink, Executive Director
National Dropout Prevention Center/Network

Sam Drew, Associate Director
National Dropout Prevention Center/Network

May 2007

National Dropout Prevention Center/Network
College of Health, Education, and Human Development
Clemson University, 209 Martin Street
Clemson, SC 29631-1555
864-656-2599
ndpc@clemson.edu
www.dropoutprevention.org

Communities In Schools, Inc.
277 South Washington Street
Suite 210
Alexandria, VA 22314
800-CIS-4KIDS
cis@cisnet.org
www.communitiesinschools.org

Acknowledgments

The authors wish to extend their appreciation to individuals from the National Dropout Prevention Center/Network and Communities In Schools, Inc. who made valuable contributions to this publication, including:

National Dropout Prevention Center/Network
Mary Reimer, Information Resource Consultant
Marty Duckenfield, Public Information Director
Peg Chrestman, Information Resource Coordinator

National Dropout Prevention Center for Students with Disabilities
Loujeania Bost, Director
Sandra Covington Smith, Research Associate

Communities In Schools, Inc.
Daniel Cardinali, President
Susan Siegel, Vice President of Research, Evaluation and Learning Management
Louis Moser, Associate Director of Research and Evaluation
Christina Holden, Operations Manager, Research, Evaluation and Learning Management
Kristie Little, Senior Project Manager, Communications

Citation for the report: Hammond, C., Linton, D., Smink, J., & Drew, S. (2007). *Dropout Risk Factors and Exemplary Programs.* Clemson, SC: National Dropout Prevention Center, Communities In Schools, Inc.

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Executive Summary

Purpose

Communities In Schools (CIS) is the nation's fifth-largest youth-serving organization and the leading dropout prevention organization, delivering resources to nearly one million students in 3,250 schools across the country. To further their network-wide commitment to evidence-based practice, CIS collaborated with the National Dropout Prevention Center/Network at Clemson University (NDPC/N) to conduct a comprehensive study of the dropout crisis in the United States. Specifically, the intent of the study was to:

1) Identify the risk factors or conditions that significantly increase the likelihood of students dropping out of school; and
2) Identify exemplary, evidence-based programs that address the identified risk factors and conditions.

Risk Factor Literature Search

The identification of significant risk factors was accomplished in several steps (see Chart A-1 in Appendix A). The first step included a thorough review of the literature to determine the risk factors and conditions that increase the likelihood of students dropping out of school. Twenty-five years of ERIC literature from 1980 up to December 31, 2005, were reviewed to obtain an historic view of the issue. Materials from the National Dropout Prevention Center/Network Library were included in the review. Other electronic databases such as *PsychInfo* and *Medline* were also explored for pertinent materials. An Internet search was conducted for ephemeral and unpublished items. Search terms included risk factors, risk indicators, at-risk youth, dropout indicators, and dropout identification. Bibliographies and reference lists from some key documents on dropout were also scanned for relevant items.

The first search resulted in around 3,400 potential citations for review, which was eventually narrowed, based on relevance, research base, and source, to approximately 75 articles that were judged worthy of further analysis. To best assess available research up to December 2005 on risk factors, NDPC/N staff decided to review only the major articles in this group that specifically focused on high school graduation or school dropout as the primary goal of analysis. Forty-four of the citations met this criterion.

Overall Findings and Trends

The following overall trends emerged from the literature:

- Dropping out of school is related to a variety of factors that can be classified in four areas or domains: individual, family, school, and community factors. (Please note: given the limited scope of this initial research, CIS made the decision to focus on two domains, individual and family factors).
- There is no single risk factor that can be used to accurately predict who is at risk of dropping out.

- The accuracy of dropout predictions increases when combinations of multiple risk factors are considered.
- Dropouts are not a homogeneous group. Many subgroups of students can be identified based on when risk factors emerge, the combinations of risk factors experienced, and how the factors influence them.
- Students who drop out often cite factors across multiple domains and there are complex interactions among risk factors.
- Dropping out of school is often the result of a long process of disengagement that may begin before a child enters school.
- Dropping out is often described as a process, not an event, with factors building and compounding over time.

Identifying Specific Risk Factors

The 44 studies used to examine major trends in dropout research were further analyzed to identify significant risk factors. This analysis was limited to only those studies that:

- Directly analyzed the data source
- Examined school dropout and/or high school graduation as the dependent variable for analysis
- Collected longitudinal data over a period of at least two years
- Examined a variety of types of predictors in several domains (individual, family, school, and/or community), including student demographic data
- Used multivariate statistical techniques or models to simultaneously control for independent relationships between student demographic and other individual factors, factors in at least one other domain, and the dependent variable
- Included a sample of 30 or more students classified as dropouts

Based on the above criteria, 21 studies that included analyses from 12 different data sources were identified for review. The full report provides a list of the 21 studies by data source and timeframe for data collection. As illustrated in the chart, studies were published between 1974 and 2002, with data collection carried out in varying time periods, from the mid-1960s until the mid-1990s. Although a few studies included national samples of students (High School and Beyond, NELS and NLTS), most were based in specific communities or school districts. The studies not only span different time periods but also diverse communities (rural, suburban, and urban) as well as demographically diverse groups of students (SES, race/ethnicity, and gender).

Within these studies, there were many differences in factors examined, measures, populations sampled, sample sizes, timeframes for data collection, and statistical methods for data analysis. To introduce some measure of control for this variation, factors were pared down to only those

found to be significantly ($p \leq .10$) related to school dropout in multivariate analysis and significant in at least *two* data sources.

The resulting 25 significant risk factors across eight factor categories appear on the following page. Approximately 60 percent of the factors were individual factors and the remaining 40 percent were family factors. Complete descriptions of the factors may be found in the full report.

Significant Risk Factors for School Dropout

Individual Domain

Individual Background Characteristics

- Has a learning disability or emotional disturbance

Early Adult Responsibilities

- High number of work hours
- Parenthood

Social Attitudes, Values, & Behavior

- High-risk peer group
- High-risk social behavior
- Highly socially active outside of school

School Performance

- Low achievement
- Retention/over-age for grade

School Engagement

- Poor attendance
- Low educational expectations
- Lack of effort
- Low commitment to school
- No extracurricular participation

School Behavior

- Misbehavior
- Early aggression

Family Domain

Family Background Characteristics

- Low socioeconomic status
- High family mobility
- Low education level of parents
- Large number of siblings
- Not living with both natural parents
- Family disruption

Family Engagement/Commitment to Education

- Low educational expectations
- Sibling has dropped out
- Low contact with school
- Lack of conversations about school

Identifying Risk Factors by School Level

Another goal of the study was to examine the identified risk factors by school level. This information will help CIS Affiliates and Sites to better target their efforts and make a direct connection between the services they provide or broker and dropout prevention.

To accomplish this goal, NDPC/N developed matrices by school level for individual and family risk factors relying on data available from the selected studies. Two groups of matrices were developed. The first set of matrices (Tables C-8 and C-9 in Appendix C) contained information by level from one data source and to be included the factor had to be:

(1) Measured at a specified grade or school level for the analysis
(2) Found at that level to be significantly ($p \leq .10$) related to school dropout through multivariate analysis

As seen in the table on the following page, all risk factors were identified in at least one school level by a single data source. All but one of the risk factors were identified at either the middle or high school levels. Eighteen of the 25 risk factors were identified in at least two data sources at either the middle or high school level. Fewer factors were identified at the elementary level.

Four factors were found in at least two data sources to significantly impact dropout at all three school levels. Three of these four factors are individual ones and include *low achievement*, *retention/over-age for grade*, and *poor attendance*. The fourth factor found to be significant across all school levels was the family factor of *low socioeconomic status (SES)*. Family SES level has been tied in numerous studies to other educational outcomes at all stages of a student's school career and its appearance at all levels in predicting dropout is consistent with this pattern.

On a cautionary note, only tentative conclusions can be drawn about factors by school level. Research needed to meet the criteria for this report, analysis of risk factors across several domains using multivariate statistics, is sparse. The fact that a specific factor is not mentioned in the chart at a specific level does not necessarily mean that it is not significant at that level. It may indicate that quality data was just not available for that factor. Given this lack of consistent quality information on risk factors by school level, there is a higher level of confidence in conclusions about impact at a particular level when the factor is found to be significant at that level in two studies rather than in a single study.

Significant Risk Factors by School Level*

Risk Category and Risk Factor	Elementary School	Middle School	High School
Individual Background Characteristics			
• Has a learning disability or emotional disturbance		✓	✓
Early Adult Responsibilities			
• High number of work hours		✓	✓✸
• Parenthood			✓✸
Social Attitudes, Values, & Behavior			
• High-risk peer group		✓✸	✓
• High-risk social behavior		✓✸	✓
• Highly socially active outside of school			✓
School Performance			
• Low achievement	✓✸	✓✸	✓✸
• Retention/over-age for grade	✓✸	✓✸	✓✸
School Engagement			
• Poor attendance	✓✸	✓✸	✓✸
• Low educational expectations		✓✸	✓✸
• Lack of effort		✓	✓
• Low commitment to school		✓	✓✸
• No extracurricular participation		✓	✓✸
School Behavior			
• Misbehavior	✓	✓	✓✸
• Early aggression	✓	✓	
Family Background Characteristics			
• Low socioeconomic status	✓✸	✓✸	✓✸
• High family mobility		✓✸	
• Low education level of parents	✓	✓	✓✸
• Large number of siblings	✓		✓
• Not living with both natural parents	✓	✓	✓✸
• Family disruption	✓		
Family Engagement/Commitment to Education			
• Low educational expectations		✓✸	
• Sibling has dropped out		✓	✓
• Low contact with school		✓✸	
• Lack of conversations about school		✓✸	✓

*Key: ✓ indicates that the risk factor was found to be significantly related to dropout at this school level in one study. ✓✸ indicates that the risk factor was found to be significantly related to dropout at this school level in two or more studies.

Exemplary Programs to Address Identified Risk Factors

Once risk factors are identified, practitioners face the decision of which program or programs to implement to address these factors. The success of prevention efforts depends greatly on the types of programs used, making it crucial to select programs that have been proven effective for identified risk factors. Many programs, however, are being used around the country with little or no knowledge about their development or actual program effects. Thus, a key goal of this study was to identify quality evidence-based programs already proven to address particular risk factors. This work is only a beginning. CIS plans to continue this effort over time to provide local affiliates with as many options as possible.

The full report provides a detailed description of the methodology used to identify exemplary programs. The process proved to be a considerable challenge given that many sources have identified "effective" or "model" programs or "best practices," often using ill-defined criteria. In addition, rigorous data on the effectiveness of dropout prevention programs is particularly lacking.

Given the scope of this study, NDPC/N began the search for exemplary programs with an existing matrix of evidence-based programs compiled by Sharon F. Mihalic (2005) at the Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado at Boulder. Later in the search, additional sources were reviewed to ensure adequate coverage of the identified risk factors. To control for inconsistencies in rating criteria across sources it was decided to include only those programs that:

- Were ranked in the top tier or level by at least *two* sources;
- Were currently in operation;
- Had no major revisions since the ranking of the program;
- Had consistent, positive evaluation outcomes; and
- Targeted K-12 school populations (not children under five or college-age students).

Fifty programs (see the following page) were identified based on these criteria. The full report provides a description of each program including the:

1) Program name and web site, if applicable;
2) Program overview;
3) Primary program strategies;
4) Primary program components;
5) Targeted risk factors/groups;
6) Relevant impacted risk factors;
7) Research evidence; and
8) Program contact information.

Lessons From Research on Program Implementation

A number of lessons can be gleaned from the research on risk factors and evidence-based programs for practitioners implementing either existing programs or developing new ones. First, multiple risk factors across several domains should be addressed wherever possible to increase

the likelihood that the program will produce positive results. Second, multiple strategies should be used to help assure program impact. Effective programs often used some combination of personal assets and skill building, academic support, family outreach, and environmental/organizational change (Catalano et al., 1999; Gottfredson, 1998; Lehr et al., 2004). Third, when adopting an existing exemplary program, research points to the need for these programs to be fully implemented *and* to be implemented as they were designed (Midwest Regional Center for Drug-Free Schools and Communities [MRC], 1994A; National Institute on Drug Abuse [NIDA], 2004). Fourth, program planners who develop their own strategies need to use evidence-based strategies proven to impact the risk factors they are addressing and develop strategies based on best practice. Finally, whether adopting an existing program or developing a new one, practitioners need to use evidence-based strategies to evaluate programs to assure effectiveness.

Exemplary Programs

Across Ages
Adolescent Sexuality & Pregnancy Prevention Program
Adolescent Transitions Program
Advancement Via Individual Determination (AVID)
Athletes Training and Learning to Avoid Steroids (ATLAS)
Big Brothers Big Sisters
Brief Strategic Family Therapy
Career Academy
CASASTART
Check & Connect
Children of Divorce Intervention Program
Coca-Cola Valued Youth Program
Cognitive Behavioral Therapy for Child Sexual Abuse
Coping Power
Families & Schools Together (FAST)
Family Matters
Fast Track
Functional Family Therapy
Good Behavior Game
Guiding Good Choices (formerly Preparing for the Drug-Free Years)
Helping the Noncompliant Child
Keepin' it REAL
LifeSkills Training
Linking Interests of Families & Teachers
Los Angeles' Better Educated Student for Tomorrow (LA's BEST)
Midwestern Prevention Project (Project STAR)
Multidimensional Family Therapy
Multidimensional Treatment Foster Care
Multisystemic Therapy
Nurse-Family Partnership
Parenting Wisely
Preventive Treatment Program
Project Graduation Really Achieves Dreams (Project GRAD)
Project Toward No Drug Abuse
Project Towards No Tobacco Use
Prolonged Exposure Therapy for PTSD
Promoting Alternative Thinking Strategies (PATHS)
Quantum Opportunities
Responding in Peaceful and Positive Ways
Safe Dates
Schools & Families Educating Children (SAFE Children)
Skills, Opportunities, and Recognition (SOAR)
School Transitional Environment Program (STEP)
Strengthening Families Program
Strengthening Families Program for Parents and Youth 10-14
Success for All
Teen Outreach Program
The Incredible Years
Too Good for Violence
Trauma-Focused Cognitive Behavioral Therapy

Introduction

Communities In Schools (CIS) is the nation's fifth largest youth serving organization and the leading dropout prevention organization, delivering resources to nearly one million students in 3,250 schools across the country. To further their network-wide commitment to using evidence-based strategies in these efforts, CIS has determined that research evidence is needed on the risk factors that increase the likelihood of students dropping out of school and the strategies that most effectively address the risk factors.

To accomplish this, CIS teamed with the National Dropout Prevention Center/Network at Clemson University (NDPC/N) to conduct a multi-component study to (1) review research on risk factors or conditions that increase the likelihood of students dropping out of school and (2) identify exemplary programs that address these risk factors.

NDPC/N carried out a comprehensive search and review of major studies, prior reviews, and meta-analyses completed as of December 31, 2005, on risk factors for school dropout and on elements and programs proven to be effective in addressing these factors through empirical research. The steps taken for each search and review are summarized in Charts A-1 to A-3 in Appendix A.

> Cautionary note. It became clear during the search that there were a number of issues related to the quality of available research evidence on programs addressing school dropout and other prevention issues that make it difficult to conclusively identify effective programs. Many programs do not include rigorous evaluation of program effectiveness or collect little to no long-term follow-up data to determine if program effects endure over time (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1999; Fashola & Slavin, 1998; Rumberger, 2001). Without clear evidence using control or comparison groups to show that a program has significant and lasting impact on dropout or other problem behaviors, it is difficult to identify quality or model programs or the components that make them effective.
>
> This lack of evidence also means that few, if any, of the programs would meet the screening criteria and evidence standards for the U.S. Department of Education's *What Works Clearinghouse*. As the goal of this review was to assist CIS Affiliates with their current efforts, this review had to rely on the best available research evidence. Selected programs are evidence-based and met as many of the *Clearinghouse* criteria as possible. It is the intent of CIS to continuously update the list of evidence-based programs and add critical elements as more quality evidence becomes available.

This narrative describes the results of the NDPC/N review. The first section addresses the literature review on and identification of significant risk factors for school dropout. The next section outlines the search for and identification of exemplary programs. This section of the narrative also describes the search for and identification processes for key components and evidence-based strategies. A number of appendices follow the narrative and include additional tables and charts and risk factor and program descriptions.

Significant Risk Factors for School Dropout

Risk Factor Literature Search

The identification of significant risk factors was accomplished in several steps (see Chart A-1 in Appendix A). The first step included a thorough review of the literature to determine the risk factors and conditions that increase the likelihood of students dropping out of school. Twenty-five years of ERIC literature from 1980 up to December 31, 2005,[1] were reviewed to obtain an historic view of the issue. Materials from the National Dropout Prevention Center/Network Library were included in the review. Other electronic databases such as *PsychInfo* and *Medline* were also explored for pertinent materials. An Internet search was conducted for ephemeral and unpublished items. Search terms included risk factors, risk indicators, at-risk youth, dropout indicators, and dropout identification. Bibliographies and reference lists from some key documents on dropout were also scanned for relevant items.

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Risk Factors Across Four Domains

As for other types of educational outcomes, researchers have found that dropping out of school stems from a wide variety of factors in four areas or domains: individual, family, school, and community factors (Hawkins, Catalano, & Miller, 1992; Rumberger, 2001). Risk factors for dropout from all four domains were described in the articles reviewed. A brief summary of some of these factors are described here, beginning with the factors identified in the individual domain.

Individual Domain: Factors Related to Individual Students

High-risk demographic characteristics. Studies have linked leaving school early to a number of individual factors that put children and youth at greater risk. This includes a number of unalterable, background characteristics such as race/ethnicity (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000; Ekstrom, Goertz, Pollack, & Rock, 1986; Rumberger, 2001; Schargel, 2004; Teachman, Paasch, & Carver, 1996), gender (Batin-Pearson et al., 2000; Goldschmidt & Wang, 1999; Rumberger, 2001), immigration status (Rumberger, 1995), limited English proficiency (Schargel, 2004), and having limited cognitive abilities (Lehr, Johnson, Bremer, Cosio, & Thompson, 2004; Lloyd, 1978; Wehlage & Rutter, 1986) or some other type of disability, whether it is physical, emotional, or behavioral (Lehr et al., 2004; Schargel, 2004; Wagner, Blackorby, Cameto, Hebbeler, & Newman, 1993).

Students with disabilities have been found to have similar types of risk factors for dropout as for other students (Lehr et al., 2004) but are more likely to have multiple risk factors than other students (Wagner et al., 1993). Students diagnosed as seriously emotionally disturbed or who have learning disabilities are particularly vulnerable to dropping out (Kaufman, Bradbury, & Owings, 1992; Wagner et al., 1993).

Early adult responsibilities. An individual's nonschool experiences also have been found to impact dropout. When adolescents are forced to take on adult responsibilities, it decreases their likelihood of staying in school until graduation. Possible responsibilities range from becoming a teen parent (Cairns, Cairns, & Neckerman, 1989; Gleason & Dynarski, 2002; Rumberger, 2001), having to take a job to help

out his or her family (Jordan, Lara, & McPartland, 1994), or having to care for siblings (Rosenthal, 1998). Combining school with working at a job more than 20 hours a week significantly increases the likelihood that a student will leave school before graduating (Barro & Kolstad, 1987; Goldschmidt & Wang, 1999; Wehlage & Rutter, 1986).

High-risk attitudes, values, and behaviors. Children and adolescents may also have general attitudes and behaviors that increase the likelihood that they will not graduate. Early antisocial behavior, such as violence, substance use, or trouble with the law, has been linked in a number of studies to dropping out of school (Battin-Pearson et al., 2000; Ekstrom et al., 1986; Wehlage & Rutter, 1986). Early sexual involvement has also been linked to dropping out (Battin-Pearson et al., 2000), as has spending no time each week reading for fun (Gleason & Dynarski, 2002). Having close friends who are involved in antisocial behavior or who have dropped out increases the risk that a youth will also drop out (Battin-Pearson et al., 2000; Cairns et al., 1989; Catalano & Hawkins, 1995; Elliott & Voss, 1974). Low occupational aspirations (Rumberger, 2001) and having low self-esteem and self-confidence (Rosenthal, 1998) also have been found to increase the risk of dropout.

Poor school performance. An individual's school experiences have been found to have a major impact on the likelihood that he or she will graduate. School performance and engagement with school are two of the primary experiences. Poor academic performance is one of the most consistent predictors of dropout, whether measured through grades, test scores, or course failure (Alexander, Entwisle, & Kabbani, 2001; Battin-Pearson et al., 2000; Ensminger & Slusarcick, 1992; Rumberger, 2001; Wagner et al., 1993). It has been found to impact dropout starting in the 1st grade (Alexander et al., 2001) and continuing throughout elementary school (Lloyd, 1978), into middle (Battin-Pearson et al., 2000; Cairns et al., 1989; Gleason & Dynarski, 2002; Ingels, Curtin, Kaufman, Alt, & Chen, 2002), and on into high school (Alexander et al., 2001; Ekstrom et al., 1986; Elliott & Voss, 1974; Gleason & Dynarski, 2002).

Other evidence that poor school performance is a major factor in leaving school early comes from dropouts themselves. Poor academic performance was given as one of the major reasons that dropouts left school before graduation in several surveys (Bridgeland, Dilulio, & Morison, 2006; Ekstrom et al., 1986; Jordan et. al., 1994). "Got poor grades" (Ekstrom et al., 1986), "was failing in school" (Bridgeland et al., 2006; Jordan et. al., 1994), or "couldn't keep up with schoolwork"(Jordan et al., 1994) were reported by at least one-third of dropouts surveyed as primary reasons for dropping out in three surveys.

Another aspect of school performance that is related to achievement but a major factor on its own, is being retained and having to repeat a grade (Alexander et al., 2001; Cairns et al., 1989; Janosz, Le Blanc, Boulerice, & Tremblay, 1997; Rumberger, 2001; Wagner et al., 1993). As for low achievement, beginning in 1st grade, retention at any grade level has been found to impact the chances that a student will drop out. What makes retention so powerful is that its effects are additive, where multiple retentions dramatically increase the odds that a student will drop out (Alexander et al., 2001; Cairns et al., 1989; Gleason & Dynarski, 2002).

Students with disabilities have been found to have multiple school performance risk factors. These students were found in one national study of high school students to be on average three years behind grade level in both reading and math, to have lower average grade point averages, and a higher likelihood of having failed a course than students without disabilities (Wagner et al., 1993).

Disengagement from school. Interrelated with school performance is the level of a student's engagement with school. Whether it begins before, after, or occurs simultaneously with poor performance, students who are alienated and disengaged from school are much more likely to drop out (Alexander, Entwisle, & Horsey, 1997; Rumberger, 2001). Researchers have found that disengagement manifests itself in both

behavior and attitudes and have categorized engagement into several groupings: academic, social, behavioral, and psychological.[2]

Academic disengagement. One primary indicator of a student's level of detachment and disengagement from school academically is absenteeism (Alexander et al., 1997; Gleason & Dynarski, 2002; Kaufman et al., 1992; Rumberger, 2001). There is evidence that the number of days out of school impacts dropout starting in the 1st grade and continues to be a factor throughout a student's school career, with some evidence that patterns of absenteeism are consistent across grade levels, at least for students with disabilities (Wagner et al., 1993). Missing too many days and having trouble catching up was the second most reported reason for dropping out of school in a recent survey of dropouts around the U.S. (Bridgeland et al., 2006). Other behaviors that can signal academic disengagement include cutting classes (Ekstrom et al., 1986; Wehlage & Rutter, 1986), truancy (Wehlage & Rutter, 1986), consistently not completing homework (Ekstrom et al., 1986), and coming to class unprepared (Kaufman et al., 1992).

Behavioral disengagement. Another major behavioral indicator that a student is not fully engaged with school is misbehavior (Alexander et al., 2001; Ekstrom et al., 1986; Kaufman et al., 1992; Rumberger, 2001; Wehlage & Rutter, 1986). Acting up in school, particularly if these behaviors result in repeated suspensions or an expulsion, can increase a student's alienation from school (Ekstrom et al., 1986; Wehlage & Rutter, 1986). Discipline problems in both middle (Gleason & Dynarski, 2002; Goldschmidt & Wang, 1999; Kaufman et al., 1992) and high school (Alexander et al., 2001; Ekstrom et al., 1986; Gleason & Dynarski, 2002; Wehlage & Rutter, 1986) have been consistently linked to increased dropout. In a few studies, misbehavior as early as the 1st grade has been linked to dropout (Jimerson, Egeland, Sroufe, & Carlson, 2000). Getting into trouble with police has also been found to be consistent with a pattern of disengagement and has been linked to dropout (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage & Rutter, 1986).

Psychological disengagement. School disengagement can also appear in attitudes toward school. Having low educational expectations either in being uncertain about high school graduation (Gleason & Dynarski, 2002; Rumberger, 2001; Wehlage & Rutter, 1986) or lacking plans for education beyond high school (Alexander et al., 1997; Janosz et al., 1997; Kaufman et al., 1992) have been found to significantly increase the likelihood that a student will drop out before getting a diploma. Reasons for dropping out given by dropouts illustrate psychological disengagement from school. Surveys have found that dropouts commonly felt that they didn't belong at school (Jordan et al., 1994), had trouble getting along with their teachers (Ekstrom et al., 1986; Jordan et al., 1994), or just had a general dislike of school (Ekstrom et al., 1986; Jordan et al., 1994).

Social disengagement. Dropouts also have been found to be more likely to have trouble getting along with peers at school or have problems with social skills (Jimerson et al., 2000). One study found that the factor influencing dropout wasn't that students were socially isolated but that the friends they had were also at risk of dropping out (Cairns et al., 1989). Another aspect of social disengagement at school is the lack of involvement in extracurricular activities at school, such as clubs, sports, science fairs, scouting, or the school newspaper (Elliott & Voss, 1974; Ingels et al., 2002). Social engagement in high school through involvement in school or community clubs or activities was found to be particularly important for students with disabilities to keep them from dropping out of school (Wagner et al., 1993).

Education stability. Another major school-related experience that can impact dropout is educational mobility through changing schools, particularly when it means attending multiple schools (Gleason & Dynarski, 2002; Rumberger, 2001; Teachman et al., 1996). High mobility between schools or changes in services for students with disabilities has also been linked to increased dropout (Lehr et al., 2004).

Family Domain: Factors Related to Family Background and Home Experiences

Background characteristics. A student's family background and home experience exert a powerful influence over educational outcomes, including dropping out of school. One of the most consistent family background factors found to impact dropout has been socioeconomic status (SES), whether measured through parental education, income, or occupational level (Alexander et al. 2001; Battin-Pearson et al., 2000; Cairns et al., 1989; Lehr et al., 2004; Rumberger, 2001; Schargel, 2004; Wehlage & Rutter, 1986). Youth in non-English-speaking homes have been found to be more likely to drop out (Rosenthal, 1998; Rumberger, 2001). Family structure can also impact dropout, where students from single-parent (Ekstrom et al., 1986; Kaufman et al., 1992; Lehr et al., 2004; Rumberger, 2001) as well as stepparent (Rumberger, 1995; Teachman et al., 1996) families have been found to be more likely to drop out of school.

Level of household stress. High levels of stress in households can increase the likelihood of dropping out (Rosenthal, 1998). This can be caused by any number of problems such as substance use (Rosenthal, 1998), family conflict (Catalano & Hawkins, 1995; Rosenthal, 1998), or family financial or health problems (Rosenthal, 1998). Residential moves also negatively impact children and youth and impact dropout (Ensminger, Lamkin, & Jacobson, 1996; Lehr et al., 2004). Other family changes in addition to moving, such as death, divorce, or remarriage, also have a negative impact on staying in school (Alexander et al., 1997; Alexander et al., 2001).

Family dynamics. Some studies have found a link between family processes and relationships and graduation. The quality of early caregiving and mother-child relationships was found in one study to be significantly linked to dropout (Jimerson et al., 2000). Students from families with low monitoring of everyday activities (Janosz et al., 1997; Rosenthal, 1998), who have no curfew on school nights (Ensminger et al., 1996; Ensminger & Slusarcick, 1992), or who have a high degree of regulation (Janosz et al., 1997) have been found to be more likely to leave school before graduation. Permissive parenting styles have also been linked to higher rates of dropout (Lehr et al., 2004; Rosenthal, 1998).

Attitudes, values, and beliefs about education. Parents' attitudes, values, and beliefs about education have been found to have an impact on a student's expectations about education and the likelihood that he or she will drop out. Low parental educational expectations have been found to be linked to higher dropout rates (Alexander et al., 2001; Ensminger & Slusarcick, 1992; Kaufman et al., 1992; Rumberger, 1995). The chances are greater that a teenager will leave school before graduating if his or her parents also dropped out of school (Catalano & Hawkins, 1995; Elliott & Voss, 1974). If one adolescent in a family has dropped out, it increases the likelihood that his or her siblings will also leave school before graduating (Gleason & Dynarski, 2002; Kaufman et al., 1992).

Behavior related to education. Not only are parents' expectations important in preventing dropout but also their actions related to education. Parents of dropouts have tended to have infrequent contacts with the school about their child's academic performance and/or behavior (Jimerson et al., 2000; Rumberger, 1995), rarely talk to their child about school (Gleason & Dynarski, 2002; Teachman et al., 1996), or get involved in school PTA and activities (Kaufman et al., 1992). One study found a link between a lack of study aids at home and dropout (Ekstrom et al., 1986), and another found a link between little parent monitoring of homework and dropout (Goldschmidt & Wang, 1999).

School Domain: Factors Related to School Structure, Environment, and Policies

School structure. One structural feature of schools that has received a lot of attention lately due to issues over achievement and vouchers for students in low-performing schools is whether the school is publicly or privately controlled. For the most part, studies have found that Catholic and other private schools have had lower dropout rates than public schools (Goldschmidt & Wang, 1999; Ingels et al., 2002; Rumberger, 2001). However, it is still not clear whether these differences are due to student body characteristics,

school resources and family support, or some structural or organizational characteristics of these schools (Rumberger, 2001).

Large school size (Barro & Kolstad, 1987; Lehr et al., 2004), particularly for low SES schools (Rumberger, 1995), has also been linked to higher dropout rates. A recent Johns Hopkins study has located the dropout crisis in high school "dropout factories," about 2,000 large, primarily urban, low-income high schools that produce most of the dropouts in the U.S. (Balfanz & Legters, 2004). The researchers argue that traditional structures common to these large schools are the key to their low "promoting power."

School resources. There is still debate over whether a school's resources have a major impact on educational outcomes (Rumberger, 1995). High student-teacher ratios were found to be linked to dropout in one study in low SES schools (Rumberger, 1995) and another found that dropout rates were lower in schools where students perceived their teachers as high quality (Rumberger, 2001).

Student body characteristics. Some researchers have found that factors in schools themselves also impact on a student's school experience and their likelihood of dropping out. One aspect consistently found to impact educational outcomes including dropout is the composition of the student body (Rumberger, 2001). Schools with high concentrations of low-income or minority students have higher dropout rates, over and above the individual background characteristics and performance of students (Goldschmidt & Wang, 1999; Kaufman et al., 1992; Rumberger, 1995).

Student body performance. Not only do a student's own performance measures impact his or her chances of dropping out, there is evidence that the level of performance of the student body as a whole also impacts a student's chances. The proportion of the student body retained (Goldschmidt & Wang, 1999) and the percentage of low achievers in math (Kaufman et al., 1992) have both been found to impact dropout.

School environment. Many of the above factors can produce a negative school environment or climate, which has been linked to increases in dropout rates (Lehr et al., 2004; Rumberger, 2001). School environments with high rates of absenteeism or high rates of misbehavior have been linked to higher individual dropout rates (Goldschmidt & Wang, 1999). Goldschmidt and Wang (1999) also found that being in a school with a high-risk incoming class (many individual risk factors such as low SES, low grades and test scores, and disciplinary problems) increased the chances that a student would drop out.

Feeling unsafe at school can be a risk factor for dropout (Bekuis, 1995) as well as being in a school with a high level of attendance, violence, and/or safety problems (Kaufman et al., 1992). Research from one national survey found that students are more likely to drop out when large proportions of students view discipline at their school as unfair or have low ratings of teacher support (Rumberger, 1995). Involuntary withdrawal through academic and discipline policies may also make the environment of school so negative for students that they begin to disengage and end up leaving before graduation.

Academic policies and practices. Standards-based reforms and high-stakes testing begun in the 1990s and accelerated with the passage of the federal No Child Left Behind Act have changed many schools' academic policies and practices. There is some evidence that these policies may be increasing the likelihood that low-performing students will drop out of school. Accountability and high-stakes testing may be increasing attrition between 9th and 10th grades (Abrams & Haney, 2004), and retention (Allensworth, 2004; Miller, Ross, & Sturgis, 2005). In an analysis of patterns in Chicago elementary schools after the implementation of high-stakes testing, researchers found that although achievement improved, retention had dramatically increased, particularly for the most vulnerable students—those who

were overage for grade, minority students, low achievers, and English-language learners (Allensworth, 2004). Some students began high school two or more years behind those in their age group, increasing the probability that they would drop out by age 17 by 8 percentage points. In addition, improvements in graduation rates and dropout rates that had begun prior to the new standards, were reversed during the initial years of the program before beginning to slowly improve (Allensworth, 2004).

Other researchers have found mixed evidence across recent studies on the impact of high school exit tests on dropping out (Beatty, Neisser, Trent, & Heubert, 2001; Center on Education Policy, 2003; Rumberger, 2004). A major impediment to understanding their impact is the limited empirical evidence available (Beatty et al., 2001; Center on Education Policy, 2003). One expert panel concluded that there is no evidence that exit exams decrease dropout rates and note that although exit exams on their own may not cause a student to drop out, they may be the final factor to push a student out of school (Center on Education Policy, 2003).

Another problem with raised standards is that they are often put in place without providing the supports, such as tutoring and summer programs, that students need to meet the new standards (Lehr et al., 2004; Miller et al., 2005). Schools that need the most improvement most likely have the fewest resources to make improvements (Miller et al., 2005).

Surveys of dropouts also reflect issues with school academic policies and practices. Students report a lack of relevant high school curriculum as a main reason they drop out (Lehr et al., 2004) as well as courses being unrelated to work (Obasohan and Kortering, 1999). In a recent national survey, the most common reason given by dropouts for leaving school was that their classes were not interesting (Bridgeland et al., 2006). A majority of dropouts surveyed felt that schools could improve the chances that students would stay in school if they provided opportunities for real-world learning, had better teachers who made classes more interesting, and kept classes smaller with more individualized instruction (Bridgeland et al., 2006).

Supervision and discipline policies and practices. Zero tolerance discipline policies that require automatic arrest and suspension or expulsion for substance possession or sales and weapons possessions also have the potential to impact dropout rates. Arrests, suspensions, and expulsions have increased since the early 1990s (Miller et al., 2005). These policies often result in a double dose of punishment for students, where they may get suspended or expelled and also have to appear in court for school misbehavior (Miller et al., 2005). As was noted earlier, being suspended often or expelled significantly increases the likelihood that a student will drop out. Policies that increase the likelihood of these consequences will increase the number of students put at risk for dropout.

Pressures to suspend, expel, or transfer students who misbehave or who are generally disruptive may also increase with the push for accountability and the use of high-stakes testing practices. Schools may systematically "discharge" or exclude disruptive and misbehaving students from school (Miller et al., 2005; Rumberger, 2001).

Community Domain: Factors Related to Communities and Neighborhoods

Location and type. Dropout rates are consistently higher in urban than suburban or rural schools (Lehr et al., 2004; Schargel, 2004). In the Johns Hopkins study of the promoting power of schools, 61 percent of urban schools, 20 percent of suburban, and only 5 percent of rural schools had the lowest levels of promoting power, where entering freshman had less than a 50/50 chance of graduating four years later (Balfanz & Legters, 2004). Geographic location also matters for dropout, where students are more likely to drop out in western and southern states (Ekstrom et al., 1986; Lehr et al., 2004; Rosenthal, 1998; Schargel, 2004).

Demographic characteristics. Dropout rates are also higher in impoverished communities (Rosenthal, 1998; Rumberger, 2001), those with higher proportions of minorities, or those with a large foreign-born population (Rosenthal, 1998). Higher dropout rates have been linked to communities with high numbers of single-parent households or adult dropouts (Rosenthal, 1998) and with low levels of education (Goldschmidt & Wang, 1999). There is some evidence that employment rates are related to dropping out—where low unemployment may encourage youth to leave school early and high unemployment discourage it (Rumberger, 2001).

Environment. Conditions in communities can increase the likelihood that students will drop out. Higher dropout rates have been found in those communities with a high amount of instability and mobility (Catalano & Hawkins, 1995; Rosenthal, 1998). Urban, high poverty areas also are more likely to have high levels of violence, drug-related crime, and overcrowding which could also impact school engagement, performance, and ultimately dropout.

Major Trends in Risk Factor Research

No Single Risk Factor for Dropout

As is evident from the above discussion, numerous risk factors for dropout have been identified across the four domains. But is there a single factor that is most important so that predictions can be made about who might drop out? A number of studies have attempted to identify a primary risk factor for dropout so that schools could identify students most at risk for dropping out. For example, Gleason & Dynarski (2002) examined 40 factors and how well each predicted dropout from middle or high school two to three years after data was collected. Factors included personal and psychological characteristics, like low self-esteem and parents don't talk to them about school; previous school experiences, such as high absenteeism and low grades; family characteristics, like being on public assistance or having a sibling that dropped out; and the adult responsibility of having a child. They analyzed the relative ability of each these factors to predict who would drop out. Their findings on some of the 9th grade risk factors for high school dropout are summarized in Chart 1.

As seen in the chart, the individual predictive power of each factor was relatively low, with dropout rates on factors ranging from 13 percent to 32 percent. On all of the identified factors, the majority of students who had a particular risk factor did *not* drop out of school. As the authors point out, the identification of at-risk students based on any one factor would have been wrong more times than it was right (Gleason & Dynarski, 2002). Therefore, even though a student shares certain risk factors with other students who have dropped out, it doesn't mean that a *particular* student will drop out. In addition, no one factor stood out as a primary cause of dropout.

Multiple Factors Best Predictors

Gleason & Dynarski (2002) also examined how well multiple factors identified students at risk of dropout. They analyzed the impact of combinations of one or more of the following risk factors: high absenteeism, being overage for grade, low grades, having a child, having a sibling who has dropped out, having previously dropped out, being unsure of graduating from high school, and spending less than one hour per week on homework. They also analyzed the predictive power of a regression risk factor based on all 40 identified factors. Their findings are summarized at the end of Chart 1. Twenty-five percent of students classified using two risk factors dropped out, 34 percent classified using three factors dropped out, and 42 percent classified using the regression factor model dropped out. Even though these groupings are better predictors, they still were more often wrong than right in predicting who would drop out.

Other studies came to the same conclusion about single factors and attempted to come up with a composite of factors to predict dropout. Balfanz and Herzog (2006), using four 6th grade risk factors—attending school less than 80 percent of time, poor behavior/conduct grade, failing math and failing English—were able to predict around 40 percent of nongraduates in Philadelphia schools.

Cairns and colleagues (1989) found that it was the combination of high aggression, poor performance, and being older than their peers in the 7th grade, rather than each factor alone, that was the best predictor of dropping out of school in their sample before the end of 11th grade. Eighty-two percent of boys and 47 percent of girls with these traits and experiences left school before completing a degree. Other factors were also important, including family SES, race/ethnicity, and peer social groups.

The study that had factors with the highest predictive ability included a combination of early childhood factors, family background and individual characteristics, school performance, and experiences (Jimerson, Egeland, Sroufe and Carlson, 2000). Using these factors, researchers were able to predict 82 percent of dropouts and 77 percent of graduates. One probable reason for the higher success of their predictors is

that they followed a student cohort over time and collected data on factors at several stages—early childhood; grades 1, 3, and 6; and at age 16.
Ingels et al. (2002), while analyzing the data from the 1988 National Education Longitudinal Study (NELS), explored how risk for dropout increased with multiple factors. They used the following six 8th grade risk factors for analysis: single-parent households, parents without a high school diploma, an older sibling who dropped out, home alone in afternoon 3+ hours, limited English proficiency, and low-income family. Their findings are graphed in Chart 2. As can be seen in the chart, risk increases with each additional risk factor. About 3 percent of students without any of the six factors dropped out while almost a third of students with three or more factors dropped out (Ingels et al., 2002).

None of the studies reviewed were able to predict dropouts or graduates with 100 percent accuracy. Gleason and Dynarski (2002) highlight the problem of using "inefficient" risk factors if the goal is selection of students to receive services to attempt to prevent dropout. For example, a high school might decide to use the Gleason-Dynarski risk regression model to target students for their dropout prevention efforts. If the school has an incoming 10th grade class of 500 students and the average dropout rate over the past few years for that school has been around 15 percent, the school could estimate that 75 of this class of 500 students would eventually drop out. The school would then develop a dropout prevention program to work with 75 students, selected based on student scores on the Gleason-Dynarski model using 40 9th grade variables. Based on this model and its 42 percent accuracy of prediction, however, the school can expect that only about 32 of the 75 students served by the program would eventually drop out, while the other 43 students estimated to drop out would not have been served at all. Even if half of the students—16 students—served who were going to drop out don't because of the program, it would only reduce the dropout rate for the class from 15 percent to 11.8 percent.

Not only was prediction of dropouts problematic, there was also no clearcut group of factors that make the "best predictors." Although grades or some measure of achievement, retention, absences, and family SES were found in many analyses to impact dropout, the identification of these factors was not universal. There was also no universal means of measuring factors and no agreement as to the grade or school levels at which factors were most important.

Differences across subgroups of dropouts. There was evidence across several studies that there are different subgroups of dropouts, with differing risk factors linked to their dropping out. There is evidence of a "traditional" dropout group that is consistent over time and share some common traits: come from low SES families (Wehlage & Rutter, 1986), have poor grades (Barrington & Hendricks, 1989; LeCompte & Dworkin, 1991; Wehlage & Rutter, 1986), have low test scores (Barrington & Hendricks, 1989; Wehlage & Rutter, 1986), were retained at some point (Wehlage & Rutter, 1986); have discipline and truancy problems (LeCompte & Dworkin, 1991; Wehlage & Rutter, 1986), and high absenteeism (Barrington & Hendricks, 1989). Many of these students can be identified early in elementary school. Wehlage & Rutter (1986) found that academic factors distinguished these dropouts from graduates.

Several studies, however, described other groups with characteristics both similar and dissimilar to traditional dropouts that, although they usually graduate, are prime candidates for dropout. Wehlage & Rutter (1986) found a group of students that they called "stay-ins" in their sample that graduated but did not plan on going on to college. This group was the hardest to predict because they included students with such a wide variety of background characteristics, behaviors, and experiences (Wehlage & Rutter, 1986). They had many similar characteristics and academic experiences as dropouts. What distinguished them were school-related factors—"stay-ins" felt more positive about how their education was going, were more interested in school, and had fewer disciplinary problems. In addition, "stay-ins" had lower self-esteem than dropouts, which remained lower than that for dropouts even after dropouts left school.

Another group of dropouts are similar to graduates in that they have average grades and test scores but end up dropping out for a variety of reasons other than academic failure. These "able" (LeCompte & Dworkin, 1991) or "capable" (Elliott & Voss, 1974) dropouts may leave school because of run-ins with the school on discipline or as a result of school policy. They also might leave because of factors outside of school, such as finding a job, getting pregnant or married (Elliott & Voss, 1974), or because of social activities and connections to friends (Ekstrom et al., 1986).

Some students also stay in school long enough to graduate but never actually finish. Barrington and Hendricks (1989) found groups of "nongraduates," students that stayed in high school four or five years, up to one year past their expected graduation date, and still did not receive their diploma. Unlike traditional dropouts, these students are similar to graduates on achievement tests and absences throughout elementary school. Where they begin to diverge from graduates is in middle school, when their absences begin to increase over time, along with failing grades and problem behaviors.

Dropouts then, are not a homogeneous group. Some exhibit risk factors early in school, while others not until middle or high school. Factors do not influence all students in the same way—some may have multiple risk factors and not drop out while others have one factor and leave school early.

Differences in timing of dropout. The timing of dropout may also be as important as other factors, with variations showing up in different populations. National trends suggest that the risk of dropout increases throughout high school, with most students dropping out in the 11th or 12th grades (Neild & Farley, 2004; Wagner et al., 1993). However, studies of specific populations have often found the opposite pattern. Forty-two percent of students in a Philadelphia study left in 9th grade (Neild & Farley, 2004), 40 percent of female dropouts and 35 percent of male dropouts in a Chicago sample left before spring of 10th grade (Ensminger & Slusarcick, 1992), and 61 percent of dropouts in a Baltimore sample left before completing 10th grade (Alexander et al., 2001).

There is also evidence that there are differences in predictive factors between early and late dropouts (Goldschmidt & Wang, 1999). For example, Goldschmidt & Wang (1999) found retention to be the strongest predictor of early dropout and misbehavior to be the strongest predictor of later dropout.

This evidence points to the need to collect data before high school and to compare factors for early and late dropouts to get the most accurate picture of who drops out and why.

Factors Cross Domains: Push and Pull Factors

The types of reasons given by dropouts for leaving school emphasize the importance of examining factors across a number of domains. There are two major categories of reasons: push factors, where students leave school due to something in the school environment, or pull factors, where students leave school because of events or circumstances outside of school (Jordan, McPartland, & Lara, 1999; Lehr et al., 2004). Push factors emanate from something about schools themselves, such as policies or the school's climate or structure, that alienate and/or frustrate students so they end up leaving before graduation. For example, some school policies that may exacerbate problems include giving failing grades after a certain number of absences, frequent use of suspensions and expulsions for misbehavior, and grade retention (Jordan et al., 1999). These practices may slowly alienate students, causing them to disengage and later drop out.

Pull factors are influences, events, and experiences outside of school that may pull a student's interest away from school and result in detachment from school and eventual dropout. These could be individual, family, or community/peer factors. Students may become parents or find employment that doesn't require a high school diploma. Some pull factors are peer-related, such as having friends who have dropped out;

and some are family-related, such as having to care for a family member or needing to get a job to contribute money to the family (Jordan et al., 1999).

When asked why they dropped out, dropouts have consistently reported more "push" than "pull" factors as the primary reasons for leaving (Jordan et al., 1999; Lehr et al., 2004). As summarized in Table 1, in three separate surveys from 1980 to 2005, dropouts gave similar school-related factors as their primary reasons for leaving school. Dropouts didn't like school, were often failing or missing too many days, or couldn't get along with teachers.

In terms of pull factors, in a 1988 survey, only 7 percent of dropouts left school to care for a family member, 12 percent because of parenthood, and 17 percent because they had to get a job (Jordan et al., 1994). In a 2005 survey, more dropouts reported these types of pull factors, where 32 percent left to get a job to make money; 26 percent became a parent; and 22 percent had to leave to care for a family member (Bridgeland et al., 2006). But these factors were still less likely to be reported than school-related reasons.

No single reason for dropping out emerged across all students in any of the studies. Nor did dropouts generally report just one reason for leaving before graduation (Lehr et al., 2004).

Complex Interactions Among Factors

A major problem in searching for primary causes of dropout is that so many factors are interrelated, it is difficult to discern causality (Gaustad, 1991; Jimerson et al., 2000; Rumberger, 2001). Even though a factor is related to dropout, it does not mean that it *causes* dropout. The same problem has been noted for other educational outcomes (Rumberger, 2001).

In order to identify independent relationships between interrelated predictor factors and dropout, multiple factors need to be controlled through the use of multivariate statistics (Wagner et al., 1993). For example, both SES and race/ethnicity have been shown not only to be related to dropout but also to each other. In a national study in 1988, significant differences in the chances of dropping out were found by race/ethnicity, where Hispanic and Black students were over twice as likely to drop out as Whites (Kaufman et al., 1992). Significant differences were also found by family SES, where the lower the income, the less likely a student was to graduate. When controls were introduced and students with similar SES backgrounds were compared, the differences between race/ethnic groups became insignificant (Kaufman et al., 1992). Family background in this study was the key to dropout, not race/ethnicity. Other studies have found similar relationships between race/ethnicity, SES, and dropout (Hauser et al., 2004). A few studies have even found that when family background is held constant, minority students are *less* likely to drop out than White students (Hauser, Simmons, & Pager, 2004; Teachman et al., 1996).

Life-course Perspective on Dropping Out

All of the above suggests a complicated interaction of factors that may or may not impact students at different points in their school careers. Longitudinal studies of cohorts of students offer the best opportunity to untangle all of these factors and understand more about what happens to students at school that may lead them to drop out.

Jimerson and colleagues (2000) followed an at-risk sample of youth from birth up to age 19 to assess the impact of early home environment, caregiving, and parent involvement at school, along with a number of family and individual, student achievement, and problem behavior factors on school dropout. They found a long pathway to dropout. Psychosocial factors early in development in the family, including the home environment, the quality of caregiving, and maternal attachment, were powerful predictors of high school status at the age of 19. The strongest predictors in their analysis included being male; poor quality of early

caregiving; problem behaviors and low achievement in 1st grade; low parent involvement in 6th grade; and poor peer relations, problem behaviors, and low achievement at age 16.

Based on their findings, they argue that dropping out is a developmental process with significant markers on a pathway to dropping out (Jimerson et al., 2000). They found that patterns seemed to be set by 3rd grade and that early events interact with later events to change progress on this pathway. Early caregiving starts the process and failing grades or discipline problems in elementary or middle schools should be seen as "midcourse markers," while truancy or failing grades in high school should be viewed as "advanced markers" on this pathway.

In another longitudinal study, Alexander and several colleagues followed a cohort of Baltimore elementary school students until after their expected graduation date (Alexander et al., 1997; Alexander et al., 2001). They examined dropout from what they called a life-course perspective, which takes into account the process of development and the impact of contextual influences of peers, family, school, and community on dropout (Alexander et al., 2001). Their analysis focused on a variety of predictors, including demographics, family context measures, children's personal resources and school experiences, and their relationship to dropout (Alexander et al., 1997; Alexander et al., 2001).

By looking at factors over the life course, these researchers found that decisions made in high school result from events, decisions, and experiences that predate high school (Alexander et al., 2001). Family changes in 1st grade impacted student decisions to drop out in high school and SES was important from 1st grade onward. Although SES was always important, its effects were tempered by family structure, family stress, and mother's employment status (Alexander et al., 2001). Retention at all school levels was a primary factor predicting dropout, while student attitudes did not become important until 9th grade. Having data on 9th-grade factors was not as good a predictor of dropout as having data on factors from 1st grade onward.

Based on their findings, Alexander and his colleagues (2001) argue that high school dropout is really the culmination of a long process of disengagement from school that starts early and builds over time. An example of this disengagement process can be seen in patterns in absences uncovered in their Baltimore sample. As illustrated in Chart 3, average annual absences for dropouts start much higher than for graduates and the gap continues to grow over time. Two keys to this disengagement process are the "timing" of events or experiences and "turning points," such as the transition between middle and high school (Alexander et al., 2001).

Process of Disengagement

These studies provide evidence that dropping out of school is not a single event but rather a long process of progressive disengagement from school that includes markers or warning signs along the path before dropout occurs. Dropouts themselves offered some insights into this process in a recent survey (Bridgeland et al., 2006). Students who dropped out reported that they felt increasingly alienated from school from one up to three years before they decided to drop out (Bridgeland et al., 2006). Seventy-one percent lost interest in school in 9th or 10th grade, over a third (33-45 percent) reported missing class often the year prior to dropping out, and a majority (59-65 percent) reported missing class often the year they dropped out (Bridgeland et al., 2006). "Students described a pattern of refusing to wake up, missing school, skipping class, and taking three-hour lunches—and each absence made them less willing to go back" (Bridgeland et al., 2006, p. 8).

Implications for Local Programs

The studies reviewed above give insights into the dropout process. There are a number of risk factors that are related to dropout and not all of these factors impact all students in the same way. Dropout is more a

process than a single event. From a life-course perspective, dropout is the result of a long-term process of academic and social disengagement from school, which is influenced by the intersection of a variety of academic, personal, and family experiences and resources (Alexander et al., 2001).

There are a number of implications of this research for schools and communities as they grapple with finding solutions to the problem of school dropout. First, although the prediction that any particular student will drop out is problematic, there are some discernable patterns. Second, these patterns can be uncovered by tracking various factors over the course of students' school careers. Third, it is worthwhile spending time and resources on collecting these data so that prevention programs can be developed to target identified students and issues. Guessing at who might drop out without looking at these types of data is inefficient (Gleason & Dynarski, 2002) and not cost effective (Jerald, 2006). Fourth, patterns vary across subgroups, regions, and locations, making it essential to collect *local* data to best predict who will drop out in a particular locality and identify the major contributing factors.

A recent report by Achieve, Inc., after a similar review of current research, argues that there is enough information on dropout that the most cost-effective way of preventing dropout is for local school systems to invest in the development of an "early warning system" of data collection on which to base the development of interventions (Jerald, 2006). The report recommends that local school districts carry out longitudinal studies of at least two cohorts of students from grade 5 up through one year past when the cohort should have graduated. It recommends starting with a relatively large pool of indicators to find the best ones covering social background, academic performance, and educational engagement.

This review is designed to assist local CIS Affiliates by identifying a subset of risk factors that are highly likely to predict dropout and that can be mitigated through Affiliate programs. This subset could also be used by interested CIS Affiliates in the development of an "early warning system" as described in the Achieve, Inc. report.

Key Risk Factors for School Dropout

Identification of Risk Factors From Selected Studies

Study Selection Criteria

The 44 studies identified in the literature search that were used to examine major trends in risk factors were further analyzed and the review for risk factors was then limited to those sources that met *all* of the following criteria:

(1) Direct analysis of data source. Selected sources were those that included original analysis of one of 12 data sources. Sources that reviewed other researchers' analyses or summarized available literature were not included.

(2) School dropout and/or high school graduation as dependent variable for analysis. Factors found to be significant in analyses are highly dependent on the types of factors studied, how they are measured, and what types of statistics or models are used. To limit the variation somewhat, only those studies focusing on explaining dropout or graduation rates were selected. Studies using other types of educational outcomes as the focus for analysis, such as academic achievement or grade retention, were excluded from the review.

(3) Longitudinal data collected over a period of at least two years. If, in fact, dropout is a process and not an event and occurs after a number of factors interact over time, factors key to dropout will need to be analyzed over an extended period of time or at least some time prior to dropping out to best capture the dynamics of this process. Given that few studies to date have collected data for extended periods, studies selected for inclusion had to at least measure factors two years prior to the follow-up check on school status.

(4) A variety of types of predictors in several domains (individual, family, school, and/or community), including student demographic data. Research suggests that factors in several domains impact school dropout and it is important to compare the impact of factors in each domain to best understand what increases the risk that a student will drop out. Selected studies measured predictors in several domains and all studies included at least individual and family predictors.

(5) Multivariate statistical techniques or models, such as logistic regression, that simultaneously controlled for independent relationships between student demographic and other individual factors, factors in at least one other domain, and the dependent variable, dropout or high school graduation. A large number of factors have been identified that might impact dropping out of school and many of these factors are interrelated. It is important to be able to see what relationship each factor has directly on dropout regardless of the effects of other influential factors (Rumberger, 2001). For example, students who are poor are more likely to have low grades and are also more likely to drop out. Is it because they make low grades that poor students are more likely to drop out or are they more likely to drop out regardless of the grades that they make? Multivariate statistics help explore these types of interactions by controlling for the effects of a number of factors while assessing the strength of the relationship of each one factor with dropping out independent of the others. It will not be possible to prove which factors cause dropout through these techniques but it will be possible to speak in relative terms about which factors are better predictors of dropping out than other factors (Rumberger, 2001).

(6) A sample size of 30 or more students classified as dropouts. Samples of students need to be large enough so that the subsample of those who drop out is large enough to meet requirements of multivariate statistics. For this analysis, the subsample size for dropouts was 30 or more students.

21 studies from 12 data sources. Based on the above criteria, 21 studies that included analyses from 12 different data sources were identified for review. A list of the 21 studies appears in Chart 4 by data source and timeframe for data collection. As illustrated in the chart, studies were published between 1974 and 2002, with data collection carried out in varying time periods, from the mid-1960s until the mid-1990s. Although a few studies included national samples of students (High School and Beyond, NELS, and NLTS), most were based in specific communities or school districts.[3] The studies not only span different time periods but also diverse communities (rural, suburban, and urban) as well as demographically diverse groups of students (SES, race/ethnicity, and gender).

Overview of Risk Factors From Literature Review

To give CIS staff an idea of the range of factors found in the literature and to narrow down the search for key factors to only those domains and categories of factors that CIS Affiliates are most likely to target, sample matrices were developed for each of the four domains from the broader literature review and the 21 selected studies. These matrices included risk factor categories and examples of risk factors under each category. These sample matrices are included in Tables B-1 to B-4 in Appendix B.

Key Risk Factor Domains and Categories

CIS staff reviewed the sample matrix of risk factor categories for each of the four domains. Staff members then rated the relevance and importance of each of the risk factor categories from "1" to "3," with "1" indicating factors with the lowest relevance/importance and "3," those with the highest relevance/importance. The average ratings for each of the factor subcategories appear in Table B-5 in Appendix B.

As a result of the CIS staff ratings and further discussions with NDPC/N staff about trends in the risk factors, the search for significant risk factors in these studies was limited to those relating to all of the risk factor categories of the family and individual domains, and the school environment category of the school domain. Future reviews may incorporate factors from other categories in the school domain and from the community domain.

Initial Risk Factor Matrix Development

The review generated a long list of factors significantly linked to school dropout. The initial matrices of factors are Tables C-1 to C-3 in Appendix C. All of the data sources analyzed identified one or more significant individual risk factors and the greatest number and variety of significant factors was found in this domain. All but one source identified significant family risk factors. Four studies from one data source identified significant school risk factors in the school environment category.

For ease of review, factors from the sample matrices were grouped into various categories and subcategories of factors, such as non-school related attitudes, values and behaviors, and school-related psychological engagement (see Tables B-1 to B-4 in Appendix B).

Many of the factors in the initial matrix were simply different ways to measure the same characteristic and the decision was made to collapse similar factors into a single factor. For example, some studies used grades as a means of measuring student achievement while others used achievement test scores or class failure. Grades, achievement test scores, class failure, and other measures for achievement were collapsed into "low grades and/or test scores."

Significant Risk Factor Identification
Not only was there a wide range of factors and ways to measure them, but also a wide range of populations sampled, sample sizes, timeframes for data collection, and statistical/analytic methods for data analysis. To introduce at least some measure of control for this variation, factors were pared down to only those found to be

(1) Significantly ($p \leq .10$) related to school dropout in multivariate analysis
(2) Significant in at least *two* data sources

Identified Risk Factors
The resulting 25 significant risk factors across eight factor categories appear in Tables 2 and 3. Approximately 60 percent of the factors making the final list were individual factors and the remaining 40 percent were family factors. No school factors made the final list since school risk factors were found to be significantly linked to dropout when controls were introduced for other factors in only one data source. Possible reasons for this lack of significant school factors will be discussed later in this section.

Tables 2 and 3 also summarize the number of data sources where each factor was found to be a significant predictor of dropout. Four risk factors were found to be significant predictors in at least half of the data sources, including two school performance factors—*low achievement* and *retention/overage for grade*; one measure of school engagement—*low educational expectations*; and one family background factor—*low socioeconomic status* (SES).

Brief descriptions of some of the research on each of the identified risk factors are given below. More detailed descriptions, as well as indicators and exemplary programs addressing each risk factor, are included in Appendix D.

Individual Risk Factors
Fifteen of the factors making the final list were related to a student's individual characteristics. Nine of these factors were school-related experiences, including factors related to school performance, school engagement, and school behavior.

School performance. Two school performance factors were found in a majority of the data sources to be linked to dropping out of school. One of these factors—*low achievement*—was found to be a major predictor in all 12 data sources. The impact of low achievement was found to start early and to continue throughout a student's school career. In one longitudinal study, all other factors being equal, low 1st grade achievement was one of the major predictors of dropping out by age 22 or 23 (Alexander et al., 2001). The relationship found in another study between 8th grade math achievement test scores and dropout illustrates the impact achievement can have and is graphically presented in Chart 5 (Ingels et al., 2002). Twelve years after being surveyed, 33 percent of the students scoring in the lowest mathematics achievement quartile in 8th grade, 15 percent of those scoring in the two middle quartiles, and 4 percent of those scoring in the highest quartile had not received a high school diploma.

Other indications that poor academic performance is a major factor in leaving school early come from dropouts themselves. "Got poor grades," "failing at school," or "couldn't keep up with schoolwork" were primary reasons given by dropouts for leaving school before graduating in two national surveys (Ekstrom et al., 1986; Jordan et al., 1994).

As was found for low achievement, *retention/overage for grade*, the other school performance factor, was found to be linked to dropout from 1st grade up through high school. Although correlated to achievement, retention had an impact on dropping out independent of academic performance, other school experiences,

and personal characteristics. Something about the experience of being retained and being older than grade-level peers increases the likelihood of dropping out.

Several studies also found that multiple retentions dramatically increased the chances that a student would leave school before graduating (Alexander et al., 2001; Cairns et al., 1989; Gleason & Dynarski, 2002). In one study, 80 percent of students who were retained two or more times before 9th grade left school without graduating, and 94 percent of students retained in both elementary and middle school dropped out (Alexander et al., 2001). The pattern in one study illustrates the progressive nature of retention's impact: the dropout rate for those students who had not failed a grade by 7th grade was 7 percent, for those failing one grade it was 27 percent, for two grade levels it was 57 percent, and for three grade levels it was 100 percent (see Chart 6) (Cairns et al., 1989).

School engagement. A large number of the school-related risk factors involve a student's engagement with school. These attitudes and behaviors are all warning signs that a student is detaching from school. One of the primary behaviors used as a gauge of school engagement is attendance, particularly when measured through absenteeism. Absenteeism was found in various studies to impact dropout at all school levels. Absences in the 1st grade were found to be significantly related to leaving school before graduation in a Baltimore study, where, regardless of other personal characteristics, with each additional day absent in a school year, a student's chance of dropping out increased by 5 percent (Alexander et al., 1997). Missing one week during a school year, then, would increase the chances that a student would drop out by 25 percent. Two weeks would increase their chances by 50 percent. In another study, 27 percent of students with high absenteeism in their 9th grade year had dropped out two or three years later (Gleason & Dynarski, 2002).

Other aspects of poor attendance were also found to be significantly linked to dropping out. Regardless of personal characteristics or school experiences, students in a national survey who cut classes once a week or more were about six times as likely to drop out as students who never cut classes (Kaufman et al., 1992). For students in that same survey who were tardy 10 or more times in the month before the survey, their chances of dropping out were almost seven times those of students who were never tardy (Kaufman et al., 1992). In an analysis of the dropouts surveyed in the High School and Beyond survey, Wehlage and Rutter (1986) found that among academically similar peers, one of the primary factors setting dropouts apart from students who graduated was the level of truancy among dropouts.

Another aspect of engagement involves the level of commitment a student has to school and education. General dislike of school is one of the primary indicators of low commitment to school that has been linked to school dropout. "Didn't like school" was one of the two primary reasons dropouts gave for leaving school early in a 1980 national survey (Ekstrom et al., 1986) and the top reason given for leaving by dropouts in a 1988 national survey (Jordan et al., 1994).

Other reasons given for leaving school prior to graduation other than not liking school offer some insight into other issues these dropouts had with school that might be related to their low commitment. Responses of dropouts to the 1980 survey included two school-related reasons—getting poor grades and not getting along with teachers and two nonschool-related reasons—taking a job and getting married (Ekstrom et al., 1986). In the 1988 survey, all of the top reasons for leaving given by dropouts were related to school. These dropouts reported leaving because they were failing or couldn't keep up, couldn't get along with teachers, and/or felt like they didn't belong at school (Jordan et al., 1994). Unfortunately, it is not possible to discern in either survey analysis the order in which these attitudes developed. For example, did low commitment come first and cause grades to drop, or, as a result of failing grades, did the student begin detaching from school, or did both occur because of some other factor or combination of factors?

For some researchers, commitment to school involves more than just a general dislike of school. Instead, commitment to school or education includes a set of related student attitudes and behaviors in addition to general feelings about school. For example, a longitudinal study of students in Baltimore analyzed students' commitment to school through a factor called "engagement attitudes" (Alexander et al., 2001). The measure encompassed a number of items related to commitment, such as their motivation for doing schoolwork or for getting good grades, with items changing as the students matured. The researchers found these attitudes significantly impacted school dropout in the 9th grade but not in earlier years.

Low educational expectations, another aspect of school engagement, was found to be significantly related to dropout in one-third of the data sources. The evidence was the clearest about the impact of these expectations in middle and high school. In one national study, regardless of other behaviors, attitudes, or characteristics, students with low expectations for school attainment in the 8th grade were twice as likely as other students to drop out before the end of 10th grade (Rumberger, 1995). Twenty-five percent of 9th graders in another study who expressed doubts about graduation, dropped out two to three years later (with a sample mean dropout rate of 15 percent) (Gleason & Dynarski, 2002). For inner-city males in a Chicago study, having high expectations for education significantly increased the chances that they would graduate, regardless of other personal characteristics, attitudes, or behaviors, and even if their mothers had less than a high school education (Ensminger & Slusarcick, 1992).

Another factor indicating disengagement linked to dropout was a lack of effort in school. In one national study, students who reported doing no homework per week or who were usually unprepared for class were eight times as likely to drop out as students who did homework or were usually prepared for class (Kaufman et al., 1992). Even coming to class prepared only infrequently significantly reduced chances of dropping out relative to those who never came to class unprepared, although students were still at risk.

School disengagement can also be a result of social isolation at school. One measure of social isolation is the level of involvement a student has in extracurricular activities. Extracurricular activities could include sports, clubs, chorus, or the school newspaper. One study found involvement in these activities to be important for keeping girls in school but not boys (Elliott & Voss, 1974), while another found this participation significant for both (Ingels et al., 2002).

A similar pattern was found for students with disabilities for participation in school or community groups during high school (Wagner et al., 1993). Not only did participation in these groups reduce the likelihood that these students would drop out, the effect of participation on reducing dropout *increased* from 9th to 12th grade. These researchers also found that being too involved socially outside of school in non-school-related activities had the opposite impact on dropout—highly socially active students were more likely to drop out than their less socially active peers. The researchers argue that being strongly affiliated with groups tied to school, rather than bonding with friends and activities not related to school, helps to keep students engaged in school (Wagner et al., 1993).

School behavior. School misbehavior was found to be a major predictor of dropout in five of the 12 data sources. One group of researchers found that the characteristics that best distinguished dropouts from their academically similar peers who stayed in school were problem behaviors like truancy and lateness (Wehlage & Rutter, 1986). Results of a national study that followed 8th graders through the 10th grade showed that students who had been sent to the office for misbehaving were more likely to drop out than students who had never been sent to the office. In addition, the chances of dropping out dramatically increased with the number of times they got into trouble (Kaufman et al., 1992). Students who had been sent to the office once or twice in their 8th grade year were three and a half times as likely to drop out between the 8th and 10th grades as those who never were sent to the office. Those sent to the office more

than twice during that year were six and a half times as likely to drop out between the 8th and 10th grades as those never sent to the office.

Longitudinal studies provided clear evidence that misbehavior was a key factor in middle or high school. Findings for the impact of misbehavior in the elementary grades were less consistent. One study found misbehavior in 1st and 10th grades to be significant for dropout (Jimerson et al., 2000), while a second study found 9th grade misbehavior significant but not 1st or 6th grade misbehavior (Alexander et al., 2001).

Early aggression was also linked to dropout in two studies, particularly for males. One study found that boys and girls who were rated as aggressive in the 7th grade were much more likely to drop out of school before completing 11th grade (Cairns et al., 1989). The groups of students *most* likely to drop out in this study were those who had very high aggression scores, low achievement, and were older than their peers. Eighty-two percent of boys with these traits and experiences and 47 percent of girls with these traits left school before receiving a diploma (Cairns et al., 1989). Another study found that boys who were rated as aggressive by their 1st grade teachers were significantly more likely to drop out (Ensminger & Slusarcick, 1992). They did not find the same direct relationship between aggression and dropout for girls.

Individual background characteristics. The only individual background characteristic of students found in this review to be a significant predictor of dropping out of school was whether or not the student had a learning disability or emotional disturbance. These students with disabilities were those evaluated and classified by their school or school district as being eligible to receive special education and related services under the Individuals with Disabilities Education Act (IDEA) due to these disabilities (see these and other disability categories as defined in the IDEA in Appendix D, in the section Individual Background Characteristics: Has a Learning Disability or Emotional Disturbance).

Data from two national surveys indicated that students with learning disabilities or with emotional problems were more likely than other students to drop out of school. Students with specific learning disabilities were over three times as likely to drop out as other students and students with emotional problems were over five times as likely to drop out of school.

Wagner and her colleagues (1993), analyzing data from a national study of the school performance of students with disabilities, found that dropout rates varied widely by type of disability. Students identified as seriously emotionally disturbed were significantly more likely to drop out than students with other types of disabilities, with 48 percent dropping out before completing high school. Students with learning disabilities were also more likely than other students with disabilities to drop out, as were students who were mentally retarded (28 percent and 30 percent respectively).

Social attitudes, values, and behavior. Involvement in high-risk or antisocial behavior, such as substance use, violence, or theft, was found to significantly increase the risk that a student will leave school early. One study found that, regardless of how well they were performing in school, students involved in antisocial behavior were much more likely to leave school before the end of the 10th grade than other students (Battin-Pearson et al., 2000). Two studies found links between substance use and dropout: one for heavy use of marijuana (Ensminger et al., 1996) and the other for smoking cigarettes (Kaufman et al., 1992). A third study found a link between being in "serious trouble with the law" and dropping out of school for both males and females (Wehlage & Rutter, 1986).

Researchers have also found that affiliating with high-risk peers who drop out or engage in various types of antisocial behavior increases the risk of dropping out. One study found that students with close friendships to antisocial peers at age 14 were much more likely to leave high school early, regardless of how well they were doing academically at that age (Battin-Pearson et al., 2000). Other researchers found

the same to be true of those who were close friends with peers who had dropped out (Cairns et al., 1989; Elliott & Voss, 1974).

The amount of time students spent with friends outside of school was found to be related to dropping out in two studies. Regardless of other characteristics, students who had a high level of involvement with friends outside of school were more likely to leave school before graduating than students who were less involved with friends. This was the case for students with disabilities (Wagner et al., 1993) as well as students without disabilities (Janosz et al., 1997).

Early adult responsibilities. Taking on adult responsibilities, such as becoming a parent or being employed, was shown to have a detrimental impact on school completion. One national study found that both marriage and parenthood dramatically increased the likelihood that female students of all racial/ethnic groups dropped out of school (Barro & Kolstad, 1987). Forty percent of all female dropouts were married, had children, or were married with children. Married female students with children, regardless of race/ethnicity, were six times as likely to drop out of school as single, childless female students. Marriage and parenthood also significantly impacted the dropout rate for White and Hispanic males but not for Black males.

In another study analyzing data from secondary schools in four cities, the dropout rate among high school students who had a child was 32 percent, while the average rate for all high school students in the sample was 15 percent (Gleason and Dynarski, 2002). This was the highest dropout rate for any one risk factor analyzed in the study, including high absenteeism (27 percent) and being overage for grade more than two years (28 percent).

In two national studies, working more than 20 hours or more a week on a job was found to increase the likelihood that a student would drop out of school (Barro & Kolstad, 1987; Goldschmidt & Wang, 1999). In one of these studies, working 22 hours or more a week almost doubled the dropout rate for a student (Barro & Kolstad, 1987). The other national study found that working 20 hours or more a week was a significant predictor of dropping out of school, particularly for students in middle school (Goldschmidt & Wang, 1999). In addition, employment status was detrimental to completing school regardless of socioeconomic status. Goldschmidt and Wang (1999) concluded that getting early experience in the labor market did not provide benefits after high school to students surveyed and only served to increase the chances that they did not graduate.

Family Risk Factors

Ten family risk factors in the categories of family background characteristics and family engagement/commitment to education made the final list.

Family background characteristics. A student's family SES is one of the family background factors most consistently found to impact a variety of student educational outcomes. Across a variety of measures, a family's SES was a major risk factor for dropping out of school in 10 of the 12 data sources. Researchers analyzing data from a national student survey found that 82 percent of all dropouts who left school between the 8th and 10th grades were from families with below-average SES levels (Jordan et al., 1994). The interaction between family SES and dropout was clearly illustrated in the pattern of dropouts in a longitudinal study of students in Baltimore (Alexander et al., 2001). As shown in Chart 7, 60 percent of youth from families in the lowest SES level dropped out, 30 percent of those in the middle level, and 15 percent of those in the highest SES level dropped out.

SES level was also found to be a more powerful influence than other factors that might prevent dropout, such as good school performance. In analyzing predictors of early dropout (leaving before the 10th grade),

several researchers found that coming from a family in poverty significantly increased the likelihood that a student would drop out of school, even if they made good grades (Battin-Pearson et al., 2000). There were similar findings for inner-city Chicago poor female students (Ensminger & Slusarcick, 1992).

Parental education level is one of the most consistent family background factors examined in relation to student educational outcomes. Although related to a family's SES, it was found to have an effect on dropout independent of SES and other family and student characteristics, in four of the reviewed data sources (Barro & Kolstad, 1987; Ensminger et al., 1996; Goldschmidt & Wang, 1999; Janosz et al., 1997). The higher the level of education of a student's parents, the less likely the student was to drop out (Barro & Kolstad, 1987; Goldschmidt & Wang, 1999). In the High School and Beyond (HS&B) survey of 10th graders, an additional four years of schooling of a parent increased the chances of a student's graduation by 15 percent (Barro & Kolstad, 1987). Six additional years of schooling for either parent increased the chances of graduating by 25 percent.

There were mixed results from data on inner-city students in Chicago on the impact of mothers' education on dropout. In one analysis of the impact of neighborhood factors on dropping out, researchers found that a mother's education had a significant impact on dropout for both males and females (Ensminger et al., 1996). Students whose mothers had lower levels of education were more likely to drop out. In another analysis of the same students that focused more on student performance and family characteristics, researchers found only an indirect impact of mother's education on dropout for males. In this case, mother's education impacted dropout through its influence on early grades and adolescent expectations (Ensminger & Slusarcick, 1992). Males whose mothers had higher levels of education were more likely to make good grades in 1st grade and more likely to have higher expectations for education, both of which increased the likelihood that they would graduate. The researchers found no effect in the second analysis of mother's education on dropout for girls (Ensminger & Slusarcick, 1992).

High family mobility that results in a number of residential moves and changes in schools can cause major disruptions in the lives of children and youth. A study of students in inner-city Chicago schools found a link between moves and the chances that a female student would drop out. Researchers found that a family move between 1st grade and adolescence significantly increased a female's chances of dropping out but not a male's (Ensminger et al., 1996). Females whose families had moved were three times as likely to drop out as female students who had not moved.

Changing schools, often the result of a family move, was found in several studies to have a significant impact on the likelihood that a student would leave school before graduation (Gleason & Dynarski, 2002; Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996). In the National Education Longitudinal Study (NELS) data, regardless of other family and personal characteristics like SES, changing schools even one time significantly increased the likelihood that a student would leave school before graduating (Kaufman et al., 1992). In addition, the chances of dropping out increased steadily with each successive school change. The likelihood that a student who had changed schools once before 8th grade would drop out was almost twice that of a student who had not changed schools. Changing schools three times increased the chance of dropping out to about three times that of students who had not changed schools and changing schools five or more times increased the chances of dropping out to eight times that of those who had not changed schools (Kaufman et al., 1992).

A number of studies found that students living in households without one or both of their natural parents were more likely to drop out than students living with both natural parents. Studies found that students living in single-parent households (Barro & Kolstad, 1987; Kaufman et al., 1992; Rumberger, 1995), in stepparent families (Rumberger, 1995; Teachman et al., 1996), with a divorced mother (Teachman et al., 1996), or without both natural parents (Barro & Kolstad, 1987) had higher dropout rates. In one study, for

example, students who lived in a single-parent family in the 8th grade were more than two and a half times as likely to drop out of school as a student who lived with both parents (Kaufman et al., 1992).

There were indications from several studies of the data from the 1988 National Education Longitudinal Study (NELS) that single- or stepfamily structures may impact dropout because they increase the chances that the student will have to change schools (Rumberger, 1995; Teachman et al., 1996) or that the student will be retained (Rumberger, 1995). One of these studies found evidence that the impact of this family structure on dropout was *not* due to differences these changes may cause in parent-school interactions or parent-child interactions about school within these household structures (Teachman et al., 1996).

There were also some important differences between racial/ethnic groups on the impact of living in stepfamilies on dropout in one of the NELS studies (Rumberger, 1995). For White students, living in a stepfamily significantly *increased* their odds of dropping out, while for Black students, it significantly *decreased* their odds of dropping out. Living in a stepfamily had no significant impact on the odds that a Hispanic student would drop out.

The number of siblings a student had was linked to dropping out in two studies (Barro & Kolstad, 1987; Lloyd, 1978). Dropping out was linked to the number of siblings a student had independent of other factors such as SES, family structure, religious affiliation, and religiosity (Barro & Kolstad, 1987). Both studies found the risk factor for males and females and one study found that risk increased with each additional sibling (Barro & Kolstad, 1987).

Family disruption during the 1st grade or at some time during secondary school was found to be linked to dropout. Alexander and his colleagues (Alexander et al., 1997; Alexander et al., 2001), while examining factors that impacted dropout in a sample of students in Baltimore, found that the number of family changes during the 1st grade had a significant impact on dropping out. Regardless of later school experiences and performance, and family SES, the more family changes that students experienced during their 1st grade years, the more likely they were to later drop out. Family changes included divorce, marriage, a family move, illness or death, or other adults coming into or leaving the household. A study of two cohorts of Canadian students found a similar connection between family disruption and dropout in middle and high school (Janosz et al., 1997).

Family engagement/commitment to education. As was found for students, family commitment to education was found to significantly impact school dropout. One indication of family commitment is whether other family or household members dropped out of school. In the NELS survey, regardless of other family and personal characteristics like SES, having an older sibling who dropped out significantly increased the likelihood that a student would leave school before graduating, and the risk increased as the number of sibling dropouts increased (Kaufman et al., 1992). Eighth-grade students with one older sibling who had dropped out were more than one and a half times as likely to later drop out of school and those with two or more dropout siblings were twice as likely to later drop out than students without dropout siblings (Kaufman et al., 1992).

Another study found that having siblings as well as one or more parents who dropped out significantly increased the chances that a student would drop out (Elliott & Voss, 1974). The researchers found that this exposure to dropout at home, based on the factors they analyzed, explained the connection between SES and dropout in their sample. It appeared to them that lower-class youth were more likely to have a family member who had dropped out which increased their own chances of dropping out (Elliott & Voss, 1974).

As was found for student's expectations, parental expectations for education attainment for their children were important predictors of a student leaving school before graduation. Two studies using the NELS data found that, regardless of other family and personal characteristics like SES, low parental expectations for their child's education significantly increased the likelihood that the child would leave school before graduating (Kaufman et al., 1992; Rumberger, 1995). Eighth-grade students whose parents did not expect them to graduate from high school were almost 14 times as likely to later drop out of school as students whose parents expected them to receive at least some college education. Even students whose parents expected them to receive at most some college education were significantly more likely to drop out than students whose parents expected them to get a four-year degree—they were 40 percent more likely to drop out (Kaufman et al., 1992).

Ensminger & Slusarcick (1992) found a similar relationship between mother's educational expectations and their adolescent daughter's graduation status in their analysis of students in inner-city Chicago schools. The same relationship was not found between mother's expectations and graduation status for their adolescent sons. They also found that mothers' expectations were linked to their children's expectations—students were more likely to have high expectations if their mothers also had high educational expectations for them (Ensminger & Slusarcick, 1992).

Another aspect of family engagement is the amount of contact parents or guardians have with the school about their child's academic progress or problems, academic program, or behavior problems. Two studies found a significant relationship between this type of family engagement and leaving school prior to graduation (Jimerson et al., 2000; Rumberger, 1995). Rumberger (1995) found that students whose parents had not contacted the school or teacher about their child's performance or behavior during their 8th grade year, regardless of other family and personal characteristics like SES, were significantly more likely to drop out. While analyzing the impact of a variety of factors across students' school careers on dropout, one group of researchers found that parent involvement in the 6th grade was the most important predictor of dropping out by age 19 (Jimerson et al., 2000).

Several studies explored the impact of parent-child conversations about school on dropout. Eighth-grade students in the NELS survey who had never talked with their parents about high school plans were almost six times as likely to drop out as students who regularly had conversations with their parents about high school plans (Kaufman et al., 1992). In addition, only rarely having conversations about school activities or plans with their parents reduced the likelihood that students would drop out to almost the same level as students who had more frequent conversations with their parents about school. Gleason & Dynarski (2002) found a similar significant connection between parent-child discussions about what was being studied at school and dropout for middle and high school students.

No Single Factor Best Predictor

Although all of the above individual and family factors were found to be significantly related to dropout, no study concluded that any one single factor was a reliable predictor of who would drop out of school. Instead, the best way to predict those most likely to drop out was to track multiple risk factors across several domains or to develop a model based on a combination of factors (Cairns et al., 1989; Gleason & Dynarski, 2002; Ingels et al., 2002; Wehlage & Rutter, 1986). As was described earlier, one group of researchers analyzing the NELS data, found that the higher the number of risk factors, the greater the likelihood that a student would drop out (see Chart 2) (Ingels et al., 2002). The best predictor of dropout for other researchers was Gleason & Dynarski's "regression risk factor" described earlier, that was based on 40 student characteristics and risk factors found in their analysis to be directly or indirectly related to school dropout (see Chart 3) (Gleason & Dynarski, 2002).

Studies also described dropping out of school as more of a process—rather than an event—that begins early in childhood and continues throughout a child's school experience (Alexander et al., 1997; Ensminger & Slusarcick, 1992; Jimerson et al., 2000; Jordan et al., 1994). Risk factors are interconnected and it is often hard to discern causal connections. Factors also interact over time and have a cumulative effect. Analysis of longitudinal data from students in Chicago schools found that there was an additive quality to factors over time—factors across years were better able to explain patterns in dropout than were factors from a single timeframe (Alexander et al., 2001). Knowledge of a student's risk factors in the 9th grade was not as good a predictor as knowledge of factors from 1st grade onward.

No School Risk Factors Identified in Two Data Sources

At the request of CIS, the search for school risk factors was limited to only those relating to the school's environment. No school environment factors made the final list of significant factors because significant results were found in only one data source, the 1988 National Education Longitudinal Study (NELS). From those data, three studies found several school environment factors that significantly increased the likelihood that a student would drop out of school (see Table C-3 in Appendix C). Absenteeism (Goldschmidt & Wang, 1999); percentage of the student body misbehaving (Goldschmidt & Wang, 1999); a moderate to high level of school problems with attendance, violence, and abuse of teachers (Kaufman et al., 1992); high percentage of the students rating discipline as unfair (Rumberger, 1995); and low ratings of teacher support of students (Rumberger, 1995); all were found in the NELS data to impact dropout. One study also found that having a high-risk incoming class in high school (based on a number of family, individual school experiences, and performance factors) significantly increased the school's dropout rate (Goldschmidt & Wang, 1999). But as these factors came from a single data source, they were not included in the final list of risk factors.

Two other studies reviewed examined school environment factors in their analyses but did not find that they significantly impacted dropout. Wagner and her colleagues (1993) analyzed whether having a climate conducive to learning impacted the likelihood that students with disabilities would drop out and found that it was not significantly related. Wehlage and Rutter (1986) compared the perceptions of dropouts and noncollege-bound graduates of several school climate factors to see if these perceptions helped to distinguish between the two groups. They found the climate ratings of the two groups to be very similar and consistently negative. At least half of both groups rated as "poor" or "fair" their teachers' interest in students, the effectiveness of discipline, as well as the fairness of discipline at their school. College-bound students also gave similar low ratings on fairness of discipline.

The lack of significant findings on school environmental factors does not necessarily indicate that these factors have no impact on dropout. First, nonsignificant findings in the two studies above may be more of a methodological problem than a substantive one. School, family, and individual factors that impact dropout are all highly correlated. These correlations make outcomes highly sensitive to how factors are measured and how they are analyzed. The result is that some factors may be significant in one study and not in another due to study methodology, not because there is no substantial relationship between the factors and dropping out. Rumberger (2001) points out that one of the major methodological problems with examining the impact of individual and school factors in the same analysis is that it requires measuring factors at two different levels and until recently, no statistical techniques were available to address this problem.

Second, only studies that met the review criteria were analyzed. Some prior studies that focused on school level factors did not meet one or more of the criteria necessary for inclusion in this review. The recent study by researchers at Johns Hopkins (Balfanz & Legters, 2004) on the promoting power of high schools, for example, did not use dropout as the dependent variable for analysis nor did it use the type of

multivariate statistics with variables across several domains required for inclusion. Another study (Bekuis, 1995) on the safety level of schools and its impact on dropout was excluded for similar reasons.

Finally, until recently, studies on dropout have tended to focus more on family and individual factors than school or community factors. If there was a focus on school factors, it was more likely on student body composition or school resources rather than climate, policies, and practices. An increasing emphasis on high-risk settings and context in addition to high-risk individuals in education, psychology, and prevention research (Rumberger, 2001) will hopefully result in more quality information on the impact of school environment and other school-level factors on dropout.

Identification of Risk Factors by School Level

When CIS Affiliates provide Level Two resources and services, they assist students by assessing their needs and then linking students to individualized services to address these needs. Because these students are at different school levels, it would be helpful if staff knew if certain risk factors were more influential at particular school levels than others and could target efforts accordingly. For example, making low grades is a major risk factor for dropping out of school. But are low grades a significant factor at the elementary, middle, *and* high school levels or at only some levels?

Inclusion Criteria. To address this, NDPC/N developed matrices by school level for individual risk factors and for family risk factors relying on data available from the selected studies. Two groups of matrices were developed. The first set of matrices (Tables C-8 and C-9 in Appendix C) contained information by level from one data source and to be included the factor had to be:

(1) Measured at a specified grade or school level for the analysis[4]
(2) Found at that level to be significantly ($p \leq .10$) related to school dropout through multivariate analysis

A second set of matrices (Tables C-10 and C-11 in Appendix C) required that the factors meet the above criteria in at least *two* data sources. The results of findings of the first and second matrices are included in Tables 4 and 5. In these tables, a ✓in the table cell indicates that the factor was found to be significant in one data source at that particular school level. A ✓✸ in the table cell indicates that the factor was found to be significant in *two* data sources at that school level.

As seen in the tables, all but one of the risk factors was identified in at least one school level by a single data source. All of the risk factors were identified at either the middle or high school levels. Eighteen of the 25 risk factors were identified in at least two data sources at either the middle or high school level. Fewer factors were identified at the elementary level.

Factors Across All School Levels. Four factors were found in at least two data sources to significantly impact dropout at all three school levels. Three of these four factors are individual ones and include *low achievement*, *retention/overage for grade*, and *poor attendance*. Finding this consistency across levels in these factors is not surprising given the additive quality of these factors. A student's status on these factors in one year is highly predictive of his or her status on it the next year. In addition, the impact of these factors may also multiply over time as was described earlier for retention.

The fourth factor found to be significant across all school levels was the family factor of *low socioeconomic status (SES)*. Family SES level has been tied in numerous studies to other educational outcomes at all stages of a student's school career and its appearance at all levels in predicting dropout is consistent with this pattern.

Three factors were found to be significant across all school levels in one data source, including *misbehavior, low education level of parents,* and *not living with both natural parents*.

Cautionary note. Only tentative conclusions can be drawn from these tables, however, because of the inconsistent evidence available on factors. Research needed to meet the criteria for this report, analysis of risk factors across several domains using multivariate statistics, is sparse. The fact that a specific factor is not mentioned in the chart at a specific level does not necessarily mean that it is not significant at that level. In some studies, it was the case that factors were analyzed at multiple levels but not significant at all levels. But it was more likely the case that data was not available for that factor by level.

Other aspects of the studies selected for review also made it difficult to discern factors by level. Many of the studies did not measure factors at all school levels and compare their relative impact on dropout. This is particularly the case for factors at the elementary school level. Many studies focusing on factors impacting dropout do not examine risk factors at that early level. Instead, the primary focus has been on factors at the secondary level, particularly high school, because these are closer to the time when students actually drop out of school.

The variation in selection and measurement of factors also made it difficult to find the same factors to compare across studies. Even those using the same data source did not look at the same factors. For example, one analysis from longitudinal data from schools in the Chicago area focused on the impact of neighborhood factors on dropout (Ensminger et al., 1996) while another using the same dataset analyzed the impact of school experiences and family background on dropout (Ensminger & Slusarcick, 1992).[5]

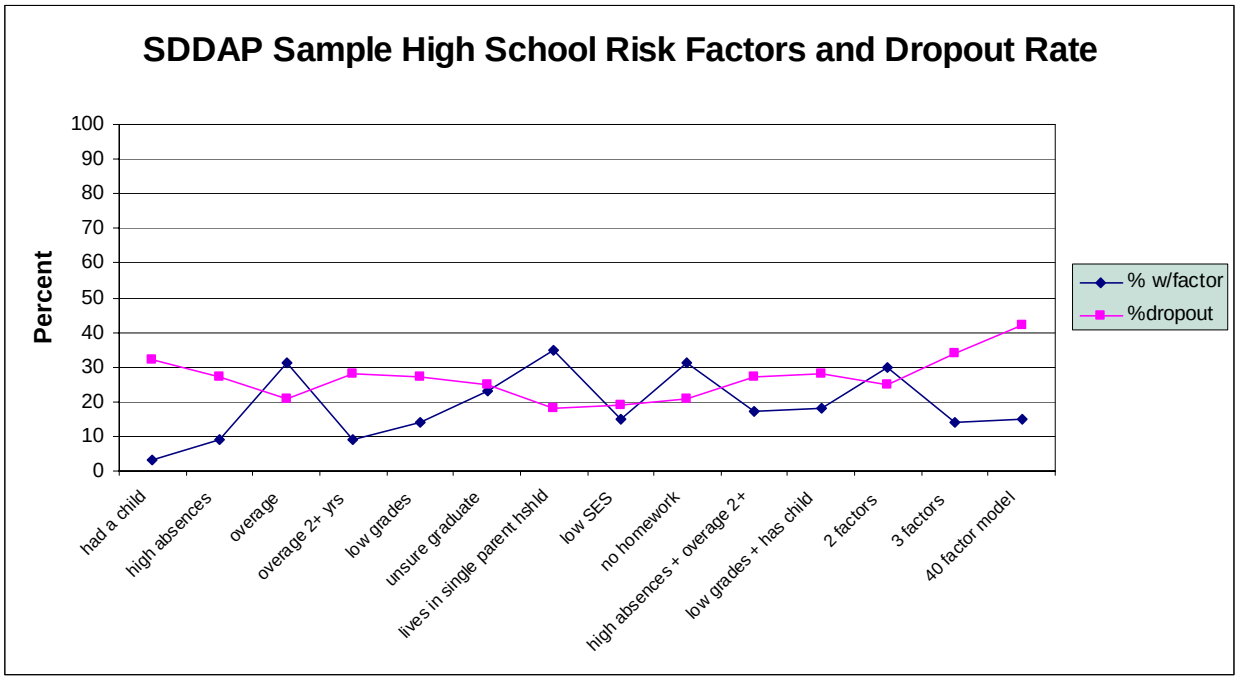
Given this lack of consistent quality information on risk factors by school level, there is a higher level of confidence in conclusions about impact at a particular level when the factor is found to be significant at that level in two studies rather than in a single study.

Status and Alterable Risk Factors

Lehr and her colleagues (2004) note that factors can be categorized by the degree to which they can be addressed and changed through prevention or intervention strategies in the hope of reducing the likelihood that a student will drop out. Status factors, such as low parent education or family mobility, are ones that are very difficult, if not impossible, to change, particularly for school-based programs. Seven of these types of factors were found in this analysis: the individual background characteristic of having a disability, and the six family background factors of SES, family mobility, low education of parents, large number of siblings, not living with both biological parents, and family disruption. The other identified factors are alterable factors, such as low educational expectations and high-risk social behavior, where change is possible through different types of strategies.

As illustrated in Chart 8, the majority of factors identified in this review are *alterable* ones, offering opportunities for intervention and prevention programs.

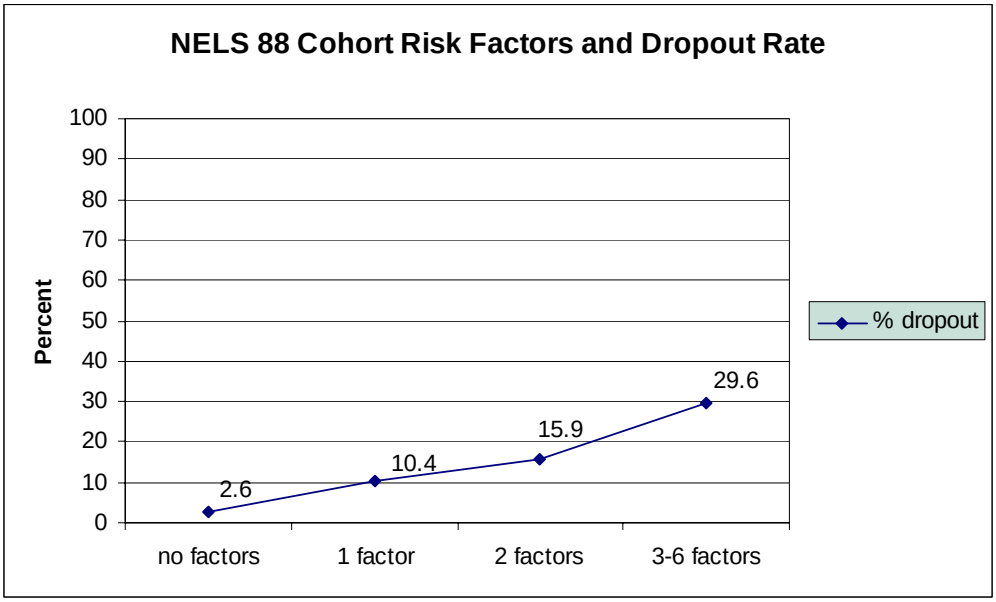
Chart 1.



Note: Risk factors include: high absenteeism, being overage for grade, low grades, having a child, having a sibling who has dropped out, having previously dropped out, being unsure of graduating from high school, and spending less than one hour per week on homework (Gleason & Dynarski, 2002, p. 32).

Source: Data from Table 2, p. 36, P. Gleason & M. Dynarski, 2002, Do we know whom to serve? Issues in using risk factors to identify dropouts, *Journal of Education for Students Placed at Risk, 7*(1), 25-41.

Chart 2.



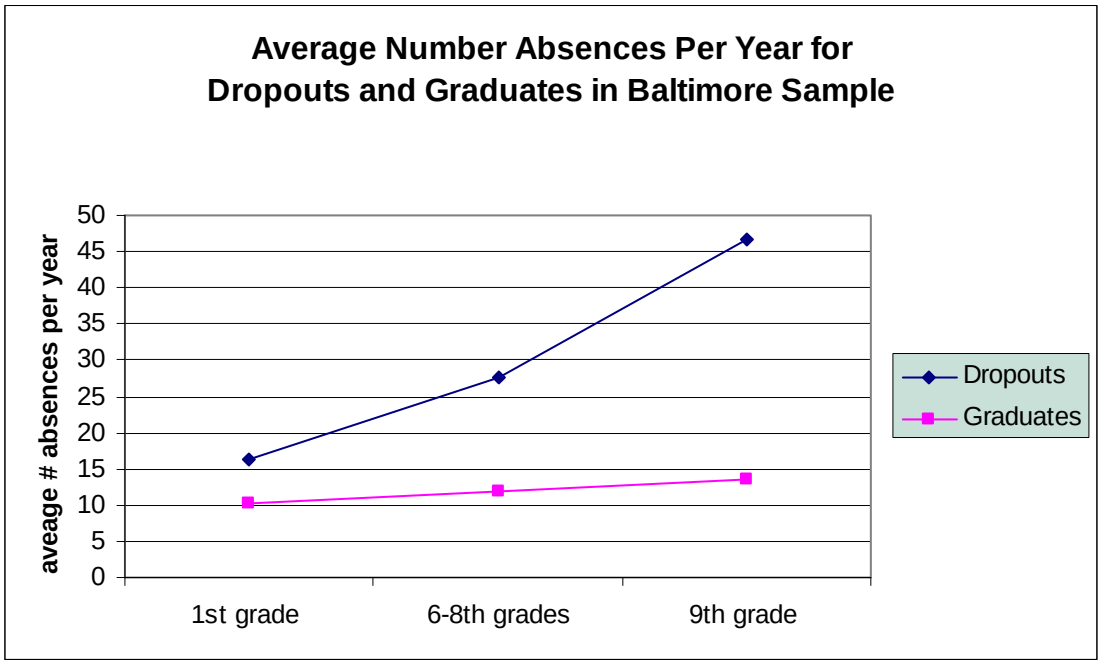
Note: Risk factors include single-parent household, parents without a high school diploma, older sibling dropped out, three or more hours home alone in afternoon after school, limited English proficiency, and low-income family.

Source: S. J. Ingels, T. R. Curtin, P. Kaufman, M. N. Alt, & X. Chen, 2002, *Coming of age in the 1990s: The eighth-grade class of 1988 12 years later*, (NCES 2002-321), Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Table 1. Top Five Reasons Given by Dropouts for Leaving School

1980 High School and Beyond 10th grade cohort dropouts (Ekstrom et al., 1986)	**1988 National Education Longitudinal Study 8th grade cohort dropouts** (Jordan et al., 1994)	**2005 Nonrepresentative Sample of Dropouts** (Bridgeland et al., 2006)
▪ Didn't like school (33%)	▪ Didn't like school (51%)	▪ Classes were not interesting (47%)
▪ Poor grades (33%)	▪ Were failing school (44%)	▪ Missed too many days and could not catch up (43%)
▪ Offered job and chose to work (19%)	▪ Couldn't get along with teachers (34%)	▪ Spent time with people who were not interested in school (42%)
▪ Getting married (18%)	▪ Couldn't keep up with schoolwork (31%)	▪ Had too much freedom and not enough rules in my life (38%)
▪ Could not get along with teachers (15%)	▪ Felt like they didn't belong at school (25%)	▪ Was failing in school (35%)

Chart 3.



Source: K. L. Alexander, D. R. Entwisle, & N. S. Kabbani. (2001, October). (p.762). The dropout process in life-course perspective: Early risk factors at home and school. *Teachers College Record*, *103*(5), 760-822.

Chart 4. References for Risk Factors by Data Source and Timeframe of Data Collection

Approximate Date of Data Collection	Data Source Reference Name on Charts	References
Life Course Data Collection		
1966-1993	Chicago schools	Ensminger et al. (1996); Ensminger & Slusarcick (1992)
1970s to 1990s	At-risk sample	Jimerson et al. (2000)
1982-1996	Baltimore schools	Alexander et al. (2001); Alexander et al. (1997)
Other Longitudinal Data Collection		
1960s	Sixth grade cohort	Lloyd (1978)
1963-1967	California study	Elliott & Voss (1974)
1974 & 1985	Canadian study (two cohorts)	Janosz et al. (1997)
1980-1982	High School and Beyond (HS&B)	Barro & Kolstad (1987); Ekstrom et al. (1986); Wehlage et al. (1986)
1983-1988	Three-community study	Cairns et al. (1989)
1985-86 &1990-91	National Longitudinal Transition Study of Special Education Students (NLTS)	Wagner et al. (1993)
1985-1993	Seattle Social Development Group data	Battin-Pearson et al. (2000)
1988-1990 & 1992	National Education Longitudinal Study (NELS) 1988	Goldschmidt & Wang (1999); Ingels et al. (2002); Jordan et al. (1994); Kaufman et al. (1992); Rumberger (1995); Teachman et al. (1996)
1991-1995	School Dropout Demonstration Assistance Programs (SDDAP)	Gleason & Dynarski (2002)

NOTE: For full references, please see reference list at end of section.

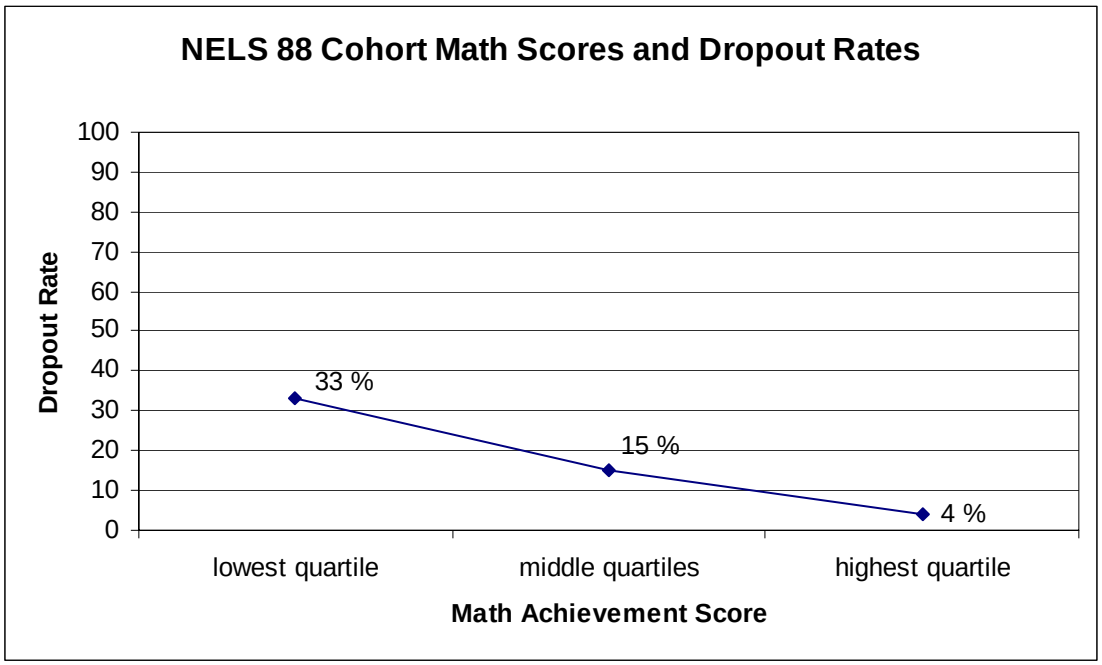
Table 2. Significant Individual Risk Factors for School Dropout

Risk Category and Risk Factor	Number of Data Sources Where Factor Significant (Total of 12 Data Sources)	Percent of Data Sources Where Factor Significant
Individual Background Characteristics		
• Has a learning disability or emotional disturbance	2	16.7
Early Adult Responsibilities		
• High number of work hours	2	16.7
• Parenthood	3	25.0
Social Attitudes, Values, & Behavior		
• High-risk peer group	3	25.0
• High-risk social behavior	4	33.3
• Highly socially active outside of school	2	16.7
School Performance		
• Low achievement	12	100.0
• Retention/overage for grade	7	58.3
School Engagement		
• Poor attendance	6	50.0
• Low educational expectations	4	33.3
• Lack of effort	2	16.7
• Low commitment to school	5	41.7
• No extracurricular participation	3	25.0
School Behavior		
• Misbehavior	5	41.7
• Early aggression	2	16.7

Table 3. Significant Family Risk Factors for School Dropout

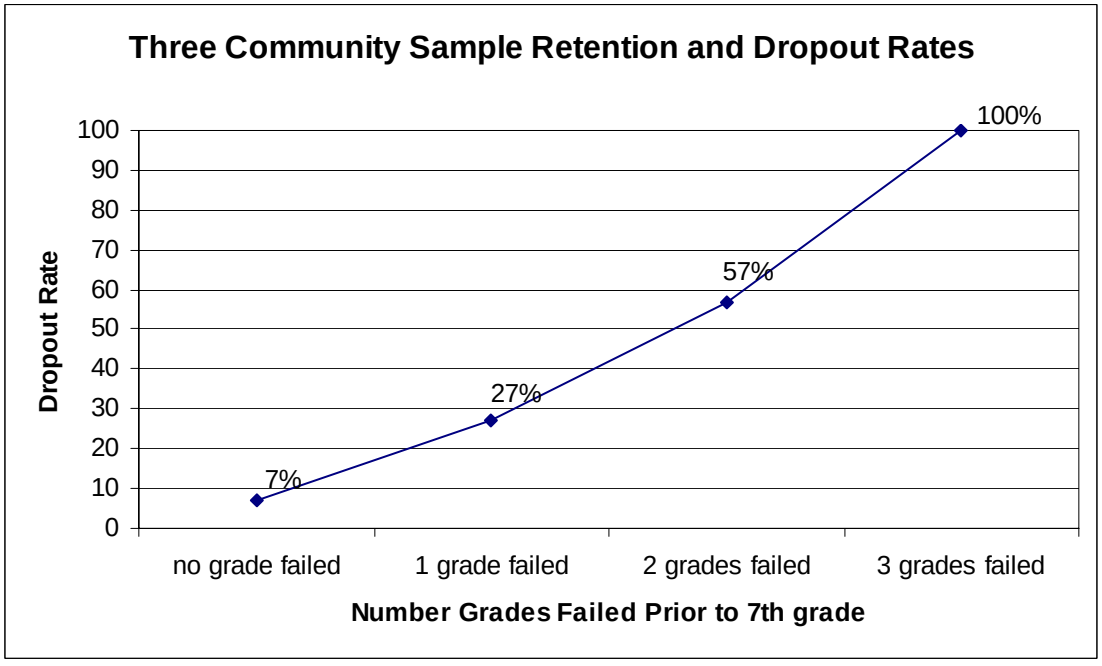
Risk Category and Risk Factor	Number of Data Sources Where Factor Significant (Total of 12 Data Sources)	Percent of Data Sources Where Factor Significant
Family Background Characteristics		
• Low socioeconomic status	10	83.3
• High family mobility	3	25.0
• Low education level of parents	4	33.3
• Large number of siblings	2	16.7
• Not living with both natural parents	3	25.0
• Family disruption	2	16.7
Family Engagement/Commitment to Education		
• Low educational expectations	2	16.7
• Sibling has dropped out	3	25.0
• Low contact with school	2	16.7
• Lack of conversations about school	2	16.7

Chart 5.



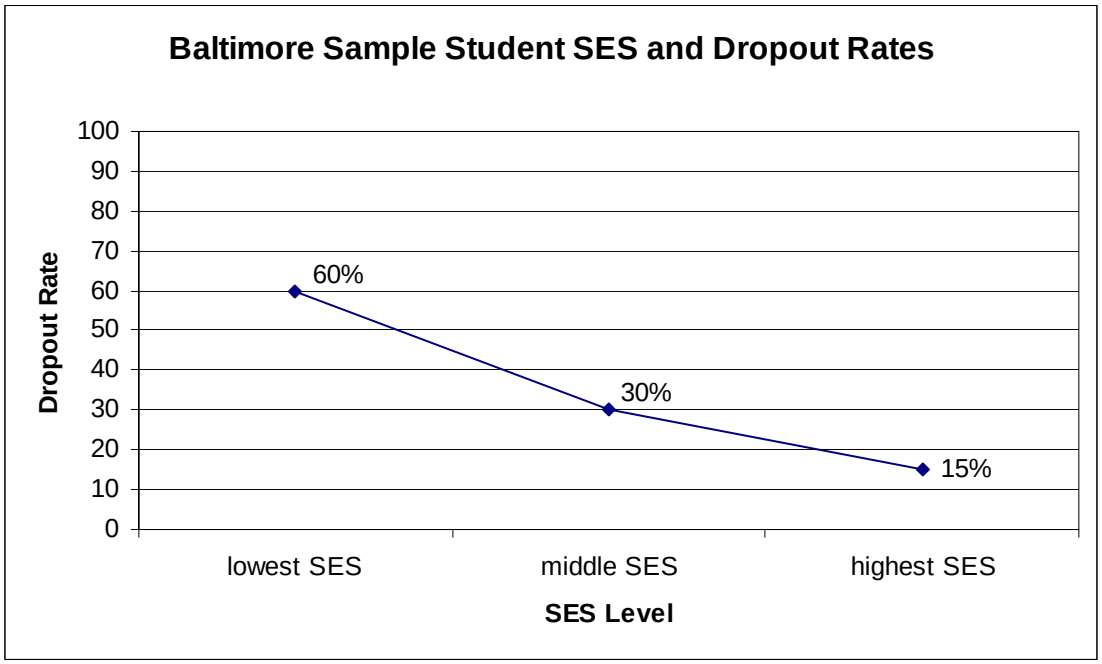
Source: Data from Table 1, p. 15, S. J. Ingels, T. R. Curtin, P. Kaufman, M. N. Alt, & X. Chen, 2002, *Coming of age in the 1990s: The eighth-grade class of 1988 12 years late,* (NCES 2002-321), Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Chart 6.



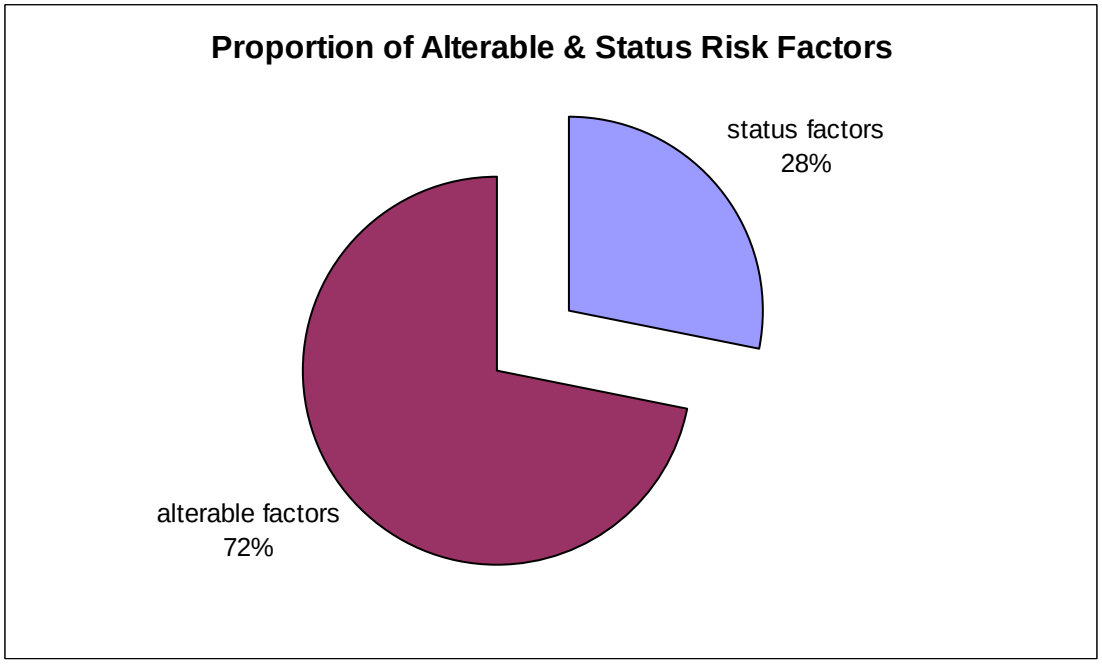
Source: Data from Table 3, p. 1443, R. B. Cairns, B. D. Cairns, & H. J. Neckerman, 1989, Early school dropout: Configurations and determinants, *Child Development, 60,* 1437-1452.

Chart 7.



Source: Data from Table 2, p.770, K. L. Alexander, D. R. Entwisle, & N. S. Kabbani, 2001, October, The dropout process in life-course perspective: Early risk factors at home and school, *Teachers College Record*, *103*(5), 760-822.

Chart 8.



Source: CIS-NDPC/N study of risk factors for school dropout, 2006.

Table 4. Significant Individual Risk Factors by School Level*

Risk Category and Risk Factor	Elementary School	Middle School	High School
Individual Background Characteristics			
• Has a learning disability or emotional disturbance		✓	✓
Early Adult Responsibilities			
• High number of work hours		✓	✓✸
• Parenthood			✓✸
Social Attitudes, Values, & Behavior			
• High-risk peer group		✓✸	✓
• High-risk social behavior		✓✸	✓
• Highly socially active outside of school			✓
School Performance			
• Low achievement	✓✸	✓✸	✓✸
• Retention/overage for grade	✓✸	✓✸	✓✸
School Engagement			
• Poor attendance	✓✸	✓✸	✓✸
• Low educational expectations		✓✸	✓✸
• Lack of effort		✓	✓
• Low commitment to school		✓	✓✸
• No extracurricular participation		✓	✓✸
School Behavior			
• Misbehavior	✓	✓	✓✸
• Early aggression	✓	✓	

*Key: ✓ indicates that the risk factor was found to be significantly related to dropout at this school level in one study. ✓✸ indicates that the risk factor was found to be significantly related to dropout at this school level in two or more studies.

Table 5. Significant Family Risk Factors by School Level*

Risk Category and Risk Factor	Elementary School	Middle School	High School
Family Background Characteristics			
• Low socioeconomic status	✓✸	✓✸	✓✸
• High family mobility		✓✸	
• Low education level of parents	✓	✓	✓✸
• Large number of siblings	✓		✓
• Not living with both natural parents	✓	✓	✓✸
• Family disruption	✓		
Family Engagement/Commitment to Education			
• Low educational expectations		✓✸	
• Sibling has dropped out		✓	✓
• Low contact with school		✓✸	
• Lack of conversations about school		✓✸	✓

*Key: ✓ indicates that the risk factor was found to be significantly related to dropout at this school level in one study. ✓✸ indicates that the risk factor was found to be significantly related to dropout at this school level in two or more studies.

Risk Factor Section Notes

1. Three documents that included relevant data/analyses that were published or became available after the December 31, 2005, deadline were also reviewed to ensure that no key study meeting the review criteria would be excluded due to this deadline. None of the three met the criteria for inclusion in the risk factor review, but information from each of the sources was included in the literature review summary. The three documents include (1) a PowerPoint presentation, *Keeping middle grades students on track to graduation: Initial analysis and implications*, by Balfanz and Herzog on an ongoing study of middle school students in Philadelphia, May, 2006; (2) *Identifying potential dropouts: Key lessons for building an early warning system* by Jerald for Achieve, Inc., June, 2006; and (3) *The silent epidemic: Perspectives of high school dropouts*, a report on a survey commissioned by the Bill and Melinda Gates Foundation, by Bridgeland and colleagues from Civic Enterprises, March 2006.
2. Christenson, 2002, as cited in Lehr et al., 2004, discusses academic, behavioral, and psychological engagement, while Rumberger, 2001, discusses academic and social engagement.
3. Although findings from analyses of the outcomes of the first cohort of the National Longitudinal Transition Study (NLTS; U.S. Department of Education, Office of Special Education Programs) of the achievement of students with disabilities are included in this review, findings from the second cohort (National Longitudinal Transition Study-2, NLTS2), begun in December of 2000, are not. Available analyses of the second cohort do not meet two of the primary criterion for inclusion in this review: (1) the use of dropout or high school graduation as the dependent variable for analysis; and (2) the use of multivariate statistical techniques, such as logistic regression, to simultaneously assess independent relationships between multiple independent variables and the dependent variable. Instead, available NLTS-2 analyses use various measures of student achievement as outcomes (Blackorby, Chorost, Garza, & Guzman, 2003; Wagner, Newman, Cameto, & Levine, 2006). If at a later date multivariate analyses of NLTS-2 using dropout as a dependent variable become available, findings will be added to the review.
4. One of the studies reviewed, by Janosz et al., 1997, had a sample that ranged in age from 12 to 16. It was therefore not possible to place their factors within specific grade or school levels.
5. The analysis on neighborhood factors is summarized in Ensminger, Lamkin, & Jacobson, 1996; and analysis of school experiences and family background is summarized in Ensminger & Slusarcick, 1992.

Exemplary Programs and Best Practices to Address Risk Factors

Program Options for CIS Affiliates

Once risk factors are identified, practitioners face the decision of which program or programs to implement to address these factors. One option is for practitioners to select from among the number of quality evidence-based programs already proven to address particular risk factors. Another option is for program planners to develop their own programs using components and strategies incorporated in best practices as a guide.

CIS enlisted NDPC/N to assist local CIS Affiliates to implement either option. To assist those wanting to adopt an existing evidence-based program, NDPC/N identified exemplary programs that could be purchased and implemented by Affiliates. For those wanting to develop their own programs, NDPC/N outlined the evidence-based strategies used in exemplary programs to help guide program development.

The following narrative describes processes used and information gathered during this review. The first section discusses the importance of using evidence-based strategies as well as lessons for program implementation stemming from risk factor research. In the next section on identified exemplary programs, the process and criteria used to select programs are described and general information given on the programs. The third and final section includes a discussion of elements of best practices found in the identified exemplary programs, including key program components and evidence-based strategies. A brief summary of the steps taken in identifying exemplary programs and their key components and strategies appears in Appendix A, Charts A-2 and A-3.

Importance of Evidence-Based Programs

The success of prevention efforts depends greatly on the types of strategies used, making it crucial to select strategies that have been proven effective for identified risk factors. Positive outcomes are more likely when the program's "theoretical rationale, goals, and objectives, and outcome evaluation data have been carefully reviewed" (Center for the Study and Prevention of Violence, n.d.).

Many programs, however, are being used around the country with little or no knowledge about their development or actual program effects. In fact, some argue that what evaluation evidence there is indicates that most prevention programs are ineffective and sometimes even harmful or counterproductive (Kumpfer & Alvarado, 1998; Office of Surgeon General, 2001).

One substance abuse prevention program developed in the 1990s is a good example of this problem. The program was federally funded and highly marketed before any extensive evaluation had been carried out. After evaluations were finally completed at several sites, it was found that the program had few, if any, short- or long-term effects on substance use. In addition, other competing programs were found to be more effective. On the surface, when compared to competing programs, this highly marketed program appeared to be quite similar. However, rigorous program evaluation pointed to significant differences between programs and their outcomes. The methods used by the highly marketed program were found to be less effective than those used by competing programs. The highly marketed program relied on class lectures and non-research-based teaching techniques, rather than on more proven interactive methods used in the other programs, such as role-playing and rehearsal of skills. This program also did not include sections on social competency skills development or use experienced teachers to deliver content (instead it used police officers), practices found to be essential to successful prevention programs (Gottfredson, 1998, p. 184-187).

Reliance on evidence-based programs and evaluation of programs being implemented can help ensure that the most effective programs are being used. The challenge lies in identifying effective programs.

Many sources have identified "effective" or "model" programs or "best practices." But often the criteria used were not made explicit or the standards used were very low (Center for the Study and Prevention of Violence, n.d.; Office of Surgeon General, 2001).

Even when using rigorous criteria, reviewers often have difficulty finding programs that meet them. For example, in a review of dropout prevention programs, only six programs met Fashola and Slavin's (1998, p. 163) criteria of (1) rigorous evidence of effectiveness ("in comparison to control groups showing significant and lasting impacts on dropout or related outcomes"), (2) having an active dissemination program, and (3) having been replicated in other sites with evidence of effectiveness at those sites. They found, as have others, problems in the level of evaluation and measurement used to assess program impact as well as a lack of replication of programs at different types of sites.

Rigorous data on the effectiveness of dropout prevention programs is particularly lacking. Rumberger (2001) outlines two reasons why this is the case: (1) there have been few rigorous evaluations carried out on programs, and (2) many evaluations that have been carried out fail to prove that the program was effective.

Lessons From Risk Factor Research for Program Implementation

A number of lessons can be gleaned from the research on risk factors and evidence-based programs for practitioners implementing either existing programs or developing new ones. First, multiple risk factors should be addressed wherever possible to increase the likelihood that the program will produce positive results. Research clearly shows that the likelihood of dropping out increases with multiple risk factors and that the effects of these factors may snowball over time. Programs should take this into account and target as many factors as possible.

Second, multiple strategies should also be used to help assure program impact. Reviews of evidence-based substance use and violence prevention, dropout prevention, and youth development programs all found that effective programs used more than one strategy, often using some combination of personal assets and skill building, academic support, family outreach, and environmental/organizational change (Catalano et al., 1999; Gottfredson, 1998; Lehr et al., 2004).

Third, when adopting an existing exemplary program, research points to the need for these programs to be fully implemented *and* to be implemented as they were designed (Midwest Regional Center for Drug-Free Schools and Communities [MRC], 1994A; National Institute on Drug Abuse [NIDA], 2004). Any changes to the strategies or partial implementation of the program will alter the program's outcomes. Exemplary programs have been carefully developed, based on current theory and research. Program components and strategies are designed to work together to produce particular outcomes and have been evaluated to ensure that they have the desired effect on problem behavior. Practitioners wanting to adapt an existing model program to meet local needs should retain core program elements to ensure fidelity to the original program design (NIDA, 2004; Schinke, Brounstein, & Gardner, 2002).

Fourth, program planners who develop their own strategies need to use evidence-based strategies proven to impact the risk factors they are addressing and develop strategies based on best practice. For example, programs that build social competency skills have been found through evaluation to help prevent substance use, violence, and other types of antisocial behavior among adolescents (Catalano et al., 1999; Gottfredson, 1998). Research on best practice for these types of programs has demonstrated that the most effective social skills programs include an assessment of the level of skill deficits because different types of deficits—acquisition, performance, or fluency—require different types of interventions to successfully change skill levels.

Finally, whether adopting an existing program or developing a new one, practitioners need to use evidence-based strategies to evaluate programs to assure effectiveness. If adopting an existing exemplary program, evaluation can ensure that the program was implemented as designed and had the desired outcomes on local children and youth. Evaluation is particularly crucial for those developing their own programs and strategies to make sure that the most effective strategies were selected and that they effectively address identified risk factors.

Exemplary Programs That Address Risk Factors

Exemplary Program Search

Given the scope of this study, NDPC/N began the search for exemplary programs with an existing matrix of evidence-based programs compiled by Sharon F. Mihalic (2005) at the Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado at Boulder.[1] *The Matrix of Prevention Programs* was selected as a starting point for program identification because of the following: (1) the purpose of the matrix was to help identify effective, evidence-based programs "designed to reduce or eliminate problem behaviors, such as delinquency, aggression, violence, substance use, school behavioral problems, and risk factors identified as predictive of these problems,"[2] including most of the risk factors identified by this project as keys to school dropout; (2) programs were rated as effective by 12 highly respected federal and private agencies and several researchers based on evaluation results usually from experimental or quasi-experimental designs; (3) program selection was based on relatively stringent criteria, such as the theoretical/research basis for program components and quality of implementation; and (4) programs were ranked based on these content, evaluation, and outcome criteria.[3] The *Matrix* is included in Appendix E.

The Matrix of Prevention Programs. The *Matrix* includes rankings of 360 prevention programs from federal agencies like the Center for Substance Abuse Prevention at the Substance Abuse and Mental Health Services Administration and the Office of Juvenile Delinquency Prevention of the U.S. Department of Justice. It also includes several efforts and web sites funded through the Office of Juvenile Justice and Delinquency Prevention, such as Strengthening America's Families and Blueprints for Violence Prevention. Also included are studies by several researchers that have reviewed and rated these prevention programs, including one carried out for the Center for Mental Health Services by Greenberg, Domitrovich and Bumbarger (1999).

Each matrix source reviewed programs for evidence of effectiveness. Assessments were made based on specified criteria and programs were ranked into tiers or levels, based on how closely they met the criteria. The number of tiers varied from one to four. A summary of the criteria used by each source and number of program tiers or levels appears in Table F-1 in Appendix F. Criteria included some measure of the rigor of evidence supporting program effectiveness and then a variety of other measures. For example, selection of "Model" or "Promising" programs on the Blueprints for Violence Prevention web site was based on (1) level of evidence of a deterrent effect with a strong research design (experimental design or those using comparison groups with statistical controls), (2) evidence of a sustained effect, (3) multiple site replication, (4) whether analysis was carried out on mediating factors, and (5) whether the program was cost effective.[4]

Removal of four matrix sources. A review of the criteria used by sources in the matrix revealed inconsistencies in the rigor of standards used for judging program effectiveness. Four sources were deemed to use criteria much less rigorous than the others and ratings from these sources were excluded from this analysis. Sources included as well as those excluded from the analysis are outlined in Table F-1 in Appendix F.

Exemplary Program Selection Criteria

Even though some problematic sources in the matrix were removed, inconsistencies in criteria remained across the remaining eight sources. To better assure program quality, for the first cut, it was decided to include only those programs that:

- were ranked in the top tier or level by at least *two* sources.

Fifty programs met this standard. These programs were then reviewed and only those programs with the following were included:

- currently in operation;
- no major revisions since the ranking of the program;
- consistent, positive evaluation outcomes; and
- target K-12 school populations (not children under five or college-age students).

The resulting list included 37 programs. The revised matrix outlining these programs, the sources for these programs, and their rankings appear in Table F-2 in Appendix F.

Additional Program Search

Later in the analysis, it became apparent that the 37 programs resulting from the revised matrix did not adequately address all of the identified risk factors. Other sources were consulted to fill in identified gaps. Four quality afterschool programs identified in January 2006 by the NDPC/N for CIS were added. Afterschool programs in that review were selected based on availability of rigorous evaluation evidence and a high quality ranking from at least two sources. Nine more programs were added after they were identified as being effective in at least two additional sources that ranked programs based on relatively rigorous criteria.[5]

Identified Exemplary Programs

The final 50 identified exemplary programs in the NDPC/N review are listed in Chart 9. This list of programs is by no means intended to be definitive and is viewed more as a work-in-progress than a finished product. There are many promising programs that target identified risk factors that are quality, effective programs, but they lack rigorous evaluation data to support their effectiveness. CIS views this as an ongoing project and will continue to review programs and add additional ones as evidence becomes available.

Tables 6 and 7 show the number of exemplary programs that address each of the risk factors. All 50 programs target individual risk factors. Twelve programs (24 percent) address family risk factors and all 12 address both individual and family factors.

A majority of the identified programs (66 percent) target risk factors in the social attitudes, values, and behaviors category, particularly high-risk social behavior. Forty-two percent of the programs target the factors in the category of school behavior. Not surprisingly, only six (12 percent) programs target family background characteristics and eight (16 percent) target individual background characteristics. Although these characteristics are major contributors to risk, they are considered unalterable factors and, therefore, generally not addressed by prevention programs.

As was supported in research on model programs, a majority (64 percent) of the exemplary programs address more than one risk factor, as shown in Table 8. About one quarter (26 percent) of identified programs address three factors, and 18 percent address four or more factors. A little over one third of the identified programs (36 percent or 18 programs) address a single risk factor. The programs and the specific risk factors that they target are outlined in Table F-6 in Appendix F.

Prevention and Intervention Focus of Exemplary Programs

One way to distinguish among programs and approaches is to distinguish between those programs attempting to prevent risk factors from developing and those trying to intervene when risk factors may have already appeared. Some of the exemplary programs identified in this project focus primarily on prevention and others on intervention. A few do a combination of the two. To help practitioners distinguish between programs and approaches, each program's approach has been categorized into any of three program types: (1) primary prevention programs that address the conditions that increase the likelihood of the development of high-risk attitudes or behaviors, (2) selected intervention/prevention programs that target certain groups of students considered to be at greater risk of dropping out or developing antisocial behavior, and (3) indicated intervention programs that target youth already exhibiting early signs of leaving school or antisocial behavior.[6] Programs may include one or more of these types. The program type of each of the identified exemplary programs is outlined in Table 9.

Table 9 also shows how the CIS delivery levels fit into these program types. CIS local affiliate programs deliver two levels of service for students: Level One services are widely accessible services that are short-term, last for a few hours or days, and are open to any student at a site supported by CIS; and Level Two services are targeted and sustained services that are targeted to the specific needs of students and/or families and are sustained over a period of time (Linton, Moser, Holden, & Siegel, 2006). Given the definitions for the program types, CIS Level One services fall under the "primary prevention" program type. These types of services might include general assemblies, health screenings, and career fairs that target risk factors for all youth at a site. CIS Level Two services, because they target specific students or families, would fall into either the "selected prevention/intervention" or the "indicated intervention" program types, depending on the group targeted. For example, tutoring programs targeted to all students at risk of failing courses but not yet failing would be considered "selected prevention/intervention" programs. On the other hand, tutoring programs that are designed for students already failing or who were retained because of course failure would be considered "indicated intervention" program types.

Exemplary Program Descriptions

To assist CIS Affiliates with program selection, brief overviews of the identified exemplary programs have been developed and include the following kinds of information: (1) program name and web site, if applicable; (2) program overview; (3) primary program components; (4) primary program strategies; (5) targeted risk factors/groups; (6) relevant impacted risk factors; (7) research evidence; and (8) program contact information. These descriptions are included in Appendix G.

Note on Relevant Impacted Risk Factors and Research Evidence. Only risk factors that were found to be significantly impacted by the program (when possible to discern) and that were viewed as most directly relevant to the 25 identified risk factors are highlighted in these descriptions. Programs may have had other outcomes that were not documented in the narrative; the listings here were not meant to be a comprehensive list of all identified program outcomes.

Information for program overviews was gathered from a number of sources, including the sources that generated the list of programs for *The Matrix of Prevention Programs*. The web sites of the *OJJDP Model Programs Guide* of the Office of Juvenile Justice and Delinquency Prevention, the *Effective Substance Abuse and Mental Health Programs for Every Community Model Programs Guide* of the Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration, and the *Blueprints for Violence Prevention* of the Center for the Study and Prevention of Violence at the University of Colorado at Boulder were particularly helpful in providing information. Much of the information provided here was gleaned from these sites. Specific sources are footnoted and full references given at the end of the program description section. Web addresses have also been provided so that anyone interested in obtaining additional program information can go directly to the source.

Elements of Best Practice: Components and Strategies for Program Development

Program planners not satisfied with existing evidence-based programs may want to design their own prevention or intervention program. To assist practitioners in developing their own evidence-based programs, the following section outlines some important aspects of best practice to help guide program development, including discussion of key program components and evidence-based strategies.

Key Program Components

Notes on Components From the Literature

Eight of the reviews that identified exemplary programs highlighted major components that were found to be incorporated into effective programs addressing problem behaviors and/or risk factors. Three components were mentioned by at least three sources. First, programs need to be implemented for a long enough period of time to have an impact on problem behaviors (Catalano et al., 1999; Gottfredson, 1998; MRC, 1994a). Time frames given ranged from nine months to several years with repeated sessions during those periods and an average of 12 sessions (Catalano et al., 1999; MRC, 1994a). Second, programs should be evaluated (MRC, 1994b) and use behavioral outcome measures to monitor resulting reduction in problem behaviors and addition of positive behaviors (Catalano et al., 1999; Gottfredson, 1998). Third, multiple interventions should also be used, with one source recommending implementing at least two quality programs simultaneously (Gottfredson, 1998; Lehr et al., 2004; NIDA, 2004).

Reviews not only emphasized using multiple interventions, but also stressed the importance of targeting factors in multiple domains to achieve success in addressing risk factors (Catalano et al., 1999; Kumpfer & Alvarado, 1998). One group of researchers, after reviewing family-oriented prevention programs, observed that "the most effective prevention approaches involve complex and multicomponent programs that address early precursors of problem behaviors in youth. The most effective approaches often are those that change the family, school, or community environment in long-lasting and positive ways" Kumpfer & Alvarado, 1998, p. 6). Catalano and colleagues (1999) also found this to be the case, with most of the effective programs analyzed addressing both student and family issues.

Exemplary Program Component Description

Identified exemplary programs incorporated a variety of components in the areas of program resources, staff management practices, and program administration that provided the infrastructure for program strategies and activities to operate. Components ranged from professional development for staff training, administrative support for the program, provision of child care and meals to planned, sequential curriculum guides, and materials. Components for each program are highlighted in the program descriptions in Appendix G.

Key Components Identification

There were a number of components that consistently appeared across programs. Two key staff management practices were utilized by exemplary programs. The primary one, used by slightly more than half of the programs, was the provision of quality staff training in program philosophy, strategies, and materials; usually through the group that developed the program. The other major staff practice was to provide program oversight through technical assistance and monitoring of staff to ensure that the program was delivered as it was designed.

All programs developed and provided key program materials and resources to those wanting to adopt the program to aid program replication. Resources generally included a basic implementation guide or manual (sometimes with a scripted instructor package), student and/or parent workbooks, and other instructional materials/handouts. Some programs offered videos, self-help materials for students and/or parents, home activities for families, and parent letters and/or newsletters. A few had developed games or other interactive materials.

A key component of program administration for all programs was the level of "dosage" of the program for participants. The length of the intervention and the frequency and duration of sessions was an important part of program success. This was particularly the case for programs involving some type of therapy but was also important for those focusing on skill building or family strengthening. Follow-up and booster sessions were also key for a number of programs.

Evidence-Based Strategies

Notes on Strategies From the Literature

Reviews of exemplary programs also summarized primary strategies incorporated into these programs. A major strategy used in prevention programs is the building of social competency skills, such as communication and problem-solving skills, in children and youth (Catalano et al., 1999; Gottfredson, 1998; NIDA, 2004). A key to the success of this training is to give youth ample opportunities to practice skills in real-world circumstances and to reinforce skills as often as possible. It also is important to make sure that changes in skills are recognized as they occur.

Successful programs also provide academic support to students through strategies such as academic skills enhancement, homework assistance, and tutoring. Successful outcomes have been reached by a number of programs by providing students a combination of academic support and social skills building (Fashola & Slavin, 1998; Lehr et al., 2004; NIDA, 2004).

Another strategy appearing across programs is the provision of normative education for children and youth (Catalano et al., 1999; NCREL, 1994; Office of Juvenile Justice and Delinquency Prevention [OJJDP], n.d.). One aspect of this education is to change norms held by youth about appropriate behavior by helping them to develop more prosocial and healthy norms (e.g., by promoting healthy eating habits or the peaceful resolution of conflicts). Another aspect of training on norms is to help adolescents get a more realistic view of the norms of their peers on a number of issues, such as sexuality, violence, and substance use.

Reviews have also found that for any training on norms or skills to be successful and result in behavior change, it has to involve interactive strategies, such as using discussion and role-playing (Kumpfer & Alvarado, 1998).

Strategy Category Selection for Exemplary Programs

Similar to findings in other reviews of effective programs, the 50 exemplary programs identified through the NDPC/N review use a variety of evidence-based strategies to address risk factors. To assist in describing programs and their approaches, strategies have been grouped into 22 categories. These categories were derived from a combination of sources:

(1) program categories used by the OJJDP's Model Program Guide web site,
(2) list of CIS-approved services for local Affiliate reporting, and
(3) categories that emerged from a review of the approaches used by the 50 identified quality programs.

The list of 22 strategy categories appears in Table 10 and descriptions for each category are included in Chart 10.

Strategy Category Identification

Strategies used in each of the quality programs were summarized and put into the 22 categories in program descriptions included in Appendix G. Table 10 includes the numbers of programs incorporating each type of strategy category. The most used strategy category, implemented in 60 percent of the 50 exemplary programs, is *life skills development*. These programs include a variety of skills, ranging from communication and critical thinking to peer resistance, conflict resolution, and social skills building.

The second most common strategy category is *family strengthening*, with 46 percent utilizing these types of strategies. Family strengthening programs generally provide some type of education or training for parents on building parenting skills, family management, communication skills, or possible ways for parents or family members to help their child academically. Programs may also include some time for parents and children to work together to practice new skills.

Twenty-six percent of programs incorporate *academic support* strategies into their programs. Academic support can include a wide range of strategies from tutoring, computer labs, and homework assistance to experiential learning.

Twenty percent of programs incorporate *behavioral interventions* strategies into programs. These strategies generally include some form of behavior modification to change problem behaviors. A popular type is cognitive-behavioral therapy.

Exemplary programs also reflected approaches recommended by reviewers. Sixty-four percent of the identified exemplary programs combine strategies directed at students with some type of strategy to include their families, whether through engagement, strengthening, or therapy strategies. In addition, a little over half (54 percent) of the 13 exemplary programs that provide academic support to students also provide some type of life skills training.

Chart 9. Exemplary Programs

Across Ages
Adolescent Sexuality & Pregnancy Prevention Program
Adolescent Transitions Program
Advancement Via Individual Determination (AVID)
Athletes Training and Learning to Avoid Steroids (ATLAS)
Big Brothers Big Sisters
Brief Strategic Family Therapy
Career Academy
CASASTART
Check & Connect
Children of Divorce Intervention Program
Coca-Cola Valued Youth Program
Cognitive Behavioral Therapy for Child Sexual Abuse
Coping Power
Families & Schools Together (FAST)
Family Matters
Fast Track
Functional Family Therapy
Good Behavior Game
Guiding Good Choices (formerly Preparing for the Drug-Free Years)
Helping the Noncompliant Child
Keepin' it REAL
LifeSkills Training
Linking Interests of Families & Teachers
Los Angeles' Better Educated Student for Tomorrow (LA's BEST)
Midwestern Prevention Project (Project STAR)
Multidimensional Family Therapy
Multidimensional Treatment Foster Care
Multisystemic Therapy
Nurse-Family Partnership
Parenting Wisely
Preventive Treatment Program
Project Graduation Really Achieves Dreams (Project GRAD)
Project Toward No Drug Abuse
Project Towards No Tobacco Use
Prolonged Exposure Therapy for PTSD
Promoting Alternative Thinking Strategies (PATHS)
Quantum Opportunities
Responding in Peaceful and Positive Ways
Safe Dates
Schools & Families Educating Children (SAFE Children)
Skills, Opportunities, and Recognition (SOAR)
School Transitional Environment Program (STEP)
Strengthening Families Program
Strengthening Families Program for Parents and Youth 10-14
Success for All
Teen Outreach Program
The Incredible Years
Too Good for Violence
Trauma-Focused Cognitive Behavioral Therapy

Table 6. Number of Exemplary Programs That Address Individual Risk Factors

Individual Risk Factors for School Dropout	Total Number of Programs Addressing Factor
Individual Background Characteristics	**15**
Has a learning disability or emotional disturbance	15
Early Adult Responsibilities	**5**
High number of work hours	0
Parenthood	5
Social Attitudes, Values, and Behavior	**33**
High-risk peer group	6
High-risk social behavior	33
Highly socially active outside of school	0
School Performance	**18**
Low achievement	16
Retention/overage for grade	2
School Engagement	**14**
Poor attendance	6
Low educational expectations	3
Lack of effort	4
Low commitment to school	4
No extracurricular participation	8
School Behavior	**21**
Misbehavior	18
Early aggression	9
Total Number Addressing Individual Risk Factors	**50**

Table 7. Number of Exemplary Programs That Address Family Risk Factors

Family Risk Factors	Total Number of Programs Addressing Factor
Family Background Characteristics	**6**
Low socioeconomic status	1
High family mobility	0
Low education level of parents	1
Large number of siblings	1
Not living with both natural parents	4
Family disruption	4
Family Engagement/Commitment to Education	**8**
Low educational expectations	0
Sibling(s) has dropped out	0
Low contact with school	7
Lack of conversations about school	1
Total Number Addressing Family Risk Factors	**12**

Table 8. Programs and Number of Factors Addressed

Number Factors Addressed	#	%
1 risk factor	10	20.0
2 risk factors	11	22.0
3 risk factors	11	22.0
4 risk factors	10	20.0
5 or more risk factors	8	16.0
Address both individual and family factors	12	24.0

Table 9. Program Type of Identified Quality Programs

	CIS LEVEL ONE	CIS LEVEL TWO	
Program	**Primary Prevention***	**Selected Prevention/ Intervention****	**Indicated Intervention*****
Across Ages		X	
Adolescent Sexuality & Pregnancy Prevention Program	X		
Adolescent Transitions Program	X	X	
Advancement Via Individual Determination (AVID)		X	
Athletes Training and Learning to Avoid Steroids	X		
Big Brothers Big Sisters		X	
Brief Strategic Family Therapy		X	X
Career Academy	X	X	
CASASTART		X	
Check & Connect		X	X
Children of Divorce Intervention Program		X	
Coca-Cola Valued Youth Program		X	
Cognitive Behavioral Therapy for Child Sexual Abuse			X
Coping Power			X
Families & Schools Together		X	
Family Matters	X		
Fast Track	X	X	
Functional Family Therapy		X	X
Good Behavior Game	X		
Guiding Good Choices	X		
Helping the Noncompliant Child		X	X
Keepin' it REAL	X		
LA's BEST		X	
LifeSkills Training	X		
Linking Interests of Families & Teachers		X	
Midwestern Prevention Project (Project STAR)	X		
Multidimensional Family Therapy		X	X
Multidimensional Treatment Foster Care			X
Multisystemic Therapy			X
Nurse-Family Partnership		X	
Parenting Wisely		X	
Preventive Treatment Program			X
Project GRAD		X	
Project Toward No Drug Abuse	X		
Project Towards No Tobacco Use	X		

	CIS LEVEL ONE	CIS LEVEL TWO	
Program	**Primary Prevention***	**Selected Prevention/ Intervention****	**Indicated Intervention*****
Prolonged Exposure Therapy for Posttraumatic Stress Disorders			X
Promoting Alternative Thinking Strategies	X		
Quantum Opportunities		X	
Responding in Peaceful and Positive Ways	X		
Safe Dates	X		
Schools & Families Educating Children (SAFE Children)		X	
School Transitional Environment Program (STEP)		X	
Skills, Opportunities, and Recognition (SOAR)	X	X	
Strengthening Families Program	X	X	
Strengthening Families Program for Parents and Youth 10-14	X	X	
Success for All		X	
Teen Outreach Program	X		
Too Good for Violence	X		
Trauma-Focused Cognitive Behavioral Therapy			X
The Incredible Years		X	X

* Primary prevention programs address risk factors for all youth.
**Selected prevention/intervention programs are for youth identified as being at greater risk of dropping out of school or developing antisocial behavior.
***Indicated intervention programs are for youth already exhibiting early signs of leaving school or antisocial behavior.

Notes:
Programs included are quality programs ranked in the highest tier/category in at least two sources.

Program categories are adapted from: The path to school failure, delinquency, and violence: Causal factors and some potential solutions, by H. M. Walker and I. R. Sprague, 1999, *Intervention in School and Clinic*, *35*, 67-73.

Table 10. Categories of Services/Strategies and Number of Programs Using the Strategy

Category of Services/Strategies	No. of Programs Using Strategy
Academic support	13
Adult education	0
Afterschool	6
Behavioral interventions	10
Career development/job training	1
Case management	7
Conflict resolution/anger mgmt	4
Court advocacy/probation/transition	2
Family engagement	6
Family strengthening	23
Family therapy	10
Gang intervention/prevention	0
Life skills development	30
Mental health services	4
Mentoring	7
Pregnancy prevention	2
School/classroom environment	8
Service-learning	1
Structured extracurricular activities	9
Substance abuse prevention	9
Teen parent support	2
Truancy prevention	1
Other	10
TOTAL NUMBER PROGRAMS	50

Chart 10. Descriptions of Service/Strategy Categories

Service/Strategy Category	Description
Academic Support	Help with remediation, support learning, other than tutoring, such as computer labs; academic skills enhancement programs that use instructional methods designed to increase student engagement in the learning process and hence increase their academic performance and bonding to the school (e.g., cooperative learning techniques and "experiential learning" strategies)[1]; includes homework assistance and tutoring.
Adult Education	Educate adults through a variety of means, such as continuing education courses or online courses; adult secondary education, including GED preparation; English-as-a-Second-Language programs; adult basic education, literacy; work skills or work-based education; lifelong learning/opportunities for adult growth and development.
Afterschool	Rewarding, challenging, and age-appropriate activities in a safe, structured, and positive environment after regular school hours. They may reduce delinquency by way of a socializing effect through which youth learn positive virtues such as discipline or simply reduce the opportunity for youth to engage in delinquency.[1]
Behavioral Interventions	Individualized interventions designed to decrease a specific behavior, by shaping and reinforcing a desired alternative replacement behavior, while tracking changes over time; designed to improve the individual's overall quality of life (i.e., student development).
Career Development/Job Training	Provision of social, personal, and vocational skills and employment opportunities to help youth achieve economic success, avoid involvement in criminal activity, and subsequently increase social and educational functioning.[1]
Case Management	Coordinate services for youth/families; linking child and/or parents to resources and or services, such as job counseling, mental health counseling, financial management, medical/dental care; serve as liaison between family and school or family and court.
Conflict Resolution/ Anger Management	Encourage nonviolent dispute resolution through a wide range of processes; teach decision-making skills to better manage conflict; learn to identify interests, express own views, and seek mutually acceptable solutions to disputes. Common forms of conflict resolution include: negotiation, mediation, arbitration, community conferencing, and peer mediation.[1]
Court Advocacy/Probation/Transition	Individuals who serve as advocates for youth with social services, the juvenile justice, or school system to make sure they receive appropriate services; provision of resources and support during transition and reintegration after being released; probation services, monitoring, and support through intensive supervision programs or school-based probation.[1]
Family Engagement	Encompasses a broad range of events from picnics and field trips to activities that involve families in their children's education.
Family Strengthening	Educating parents on specific parenting skills, management skills, and communication skills; providing education on various topics such as abuse and sexuality; training on ways to assist child academically.
Family Therapy	Focuses on improving maladaptive patterns of family interaction and communication.[1]

Chart 10. Descriptions of Service/Strategy Categories (cont.)

Service/Strategy Category	Description
Gang Prevention/Intervention	Prevent youth from joining gangs; intercede with existing gang members during crisis conflict situations.[1]
Life Skills Development	Communication skills; the ability to cope effectively with relationships; problem solving/decision making; critical thinking; assertiveness; peer selection; low-risk choice making; self-improvement; stress reduction; consumer awareness;[2] peer resistance; recognize and appropriately respond to risky or potentially harmful situations; appreciation for diversity; social influences on behavior; overviews of conflict resolution skills and social skills;[1] leadership skills/training; and health education.
Mental Health Services	Substance abuse treatment such as 12-step programs such as Alcoholics Anonymous or Narcotics Anonymous; counseling related to substance use.
Mentoring	Relationship over a prolonged period of time between two or more people where an older, caring, more experienced individual provides help to the younger person as he or she goes through life.[1]
Pregnancy Prevention	Aims to reduce the incidence of teen pregnancy through education and provision of comprehensive information.
School/Classroom Environment	Reducing or eliminating problem behaviors by changing the overall context in which they occur; interventions to change the decision-making processes or authority structures; redefining norms for behavior and signaling appropriate behavior through the use of rules; reorganizing classes or grades to create smaller units, continuing interaction, or different mixes of students, or to provide greater flexibility in instruction; and the use of rewards and punishments and the reduction of down time.[1]
Service-Learning	Community service with integration of service experience into classroom curricula.
Structured Extracurricular Activities	Recreation/sports and/or creative/performing arts, usually in afterschool programs; community service opportunities.
Substance Abuse Prevention	Reduce the use or abuse of illegal drugs, alcohol, or steroids by educating youth about the effects of drugs/alcohol/steroids. [1]
Teen Parent Support	Parenting skills training; financial management; other types of training and/or services to assist teen parents in staying in school and developing family life; includes pre-post natal care; and provision of child care for children of teen parents while they attend programs, schools, etc.
Truancy Prevention	Promotes regular school attendance through one or more strategies including an increase in parental involvement, the participation of law enforcement, the use of mentors, court alternatives, or other related strategies.[1]
Other	Motivational/professional guest speakers; middle-school youth groups; multifamily support groups; safe environment; planning for future; family identification assessment; alternative program; community-enhanced policing; incentives; health policy; community awareness/mobilization.

[1]OJJDP model programs database, Program Types, retrieved April 13, 2006, from http://www.dsgonline.com/mpg2.5/program_types.htm.
[2]*Effective comprehensive prevention programs: A planning guide*, March 1996 (p.29), by A. N. Duncan, S. Stephens-Burden, & A. Bickel, Portland, OR: Northwest Regional Educational Laboratory, retrieved June 19, 2006, from http://www.nwrac.org/pub/library/e/e_effective.pdf.

Exemplary Programs and Best Practices Section Notes

1. Program matrix available online at http://www.colorado.edu/cspv/blueprints/matrix/overview.htm
2. *The Matrix of Prevention Programs*, by S. F. Mihalic, 2005, Boulder, CO: Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado at Boulder, retrieved online June 23, 2006, at http://www.colorado.edu/cspv/blueprints/matrix/overview.htm
3. For a list of the 12 sources, see the References for Quality Programs and Program Descriptions, Matrix Sources section at the end of Appendix E.
4. Available from http://www.colorado.edu/cspv/blueprints/model/criteria.html
5. Sources used: Effective dropout prevention and college attendance programs for students placed at risk, by O.S. Fashola & R.E. Slavin, 1998, *Journal of Education for Students Placed at Risk*, 3(2), 159-183; *Essential tools: Increasing rates of school completion: Moving from policy and research to practice*. A manual for policymakers, administrators and educators, May 2004, by C.A. Lehr, D.R. Johnson, C.D. Bremer, S. Cosio, & M. Thompson, Minneapolis, MN: National Center on Secondary Education and Transition, Institute on Community Integration, University of Minnesota and the Office of Special Programs, U.S. Department of Education; Pathways, Family Programs, Program Focus or Features, by J. Caplan, G. Hall, S. Lubin, & R. Fleming, 1997, North Central Regional Educational Laboratory and Learning Point Associates, retrieved May 22, 2006, from http://www.ncrel.org/sdrs/pidata/pi0focus.htm; *Effective models*, National Dropout Prevention Center for Students with Disabilities, retrieved September 14, 2006, from http://www.ndpc-sd.org/practices/models.htm; *No more islands: Family involvement in 27 school and youth programs*, 2003, by D. W. James & G. Partee, Washington, DC: American Youth Policy Forum.
6. Program categories are adapted from: The path to school failure, delinquency, and violence: Causal factors and some potential solutions, by H. M. Walker and I. R. Sprague, 1999, *Intervention in School and Clinic, 35*, 67-73.

Recommendations for CIS Programs

1. **Encourage affiliates to address multiple risk factors where possible**. Research was clear that the risk for dropping out increases with multiple risk factors that may snowball in effect over time. Programs should take this into account and target as many as possible.
2. **Discourage partial implementation of model programs or the mixing of strategies drawn from different quality programs**. When local Affiliates want to adopt an existing model program, encourage them to implement all elements of a program and implement them as designed.
3. **Encourage the development of local strategies based on proven practices**. If Affiliates develop their own strategies, encourage them to use strategies proven to impact the risk factors they are addressing and develop strategies based on best practice. Consider requiring documentation in annual reports to address these concerns.
4. **Encourage the development of evidence-based strategies to evaluate programs to assure effectiveness and include documentation of results in annual reports**. Program evaluation is always an important part of program implementation, whether the program is an adopted model program or a locally developed one. Evaluation is particularly crucial for Affiliates developing their own strategies to make sure that the most effective strategies were selected and that they effectively address identified risk factors.
5. **Develop a uniform reporting system for local Affiliates that includes risk factors, strategies, and program outcome results**. To best assess nationwide CIS efforts, local Affiliates should be required to report on a uniform set of elements that can be analyzed across programs.
6. **Periodically update the risk factor, program, and strategy lists to keep up-to-date with current research**. Research in the area of dropout is ongoing and could receive renewed interest, given the recent publications on school dropouts from *Education Week* (*Diplomas count*, June 26, 2006) and the Gates Foundation-funded study, *The silent epidemic: Perspectives of high school dropouts*. Updates to the lists can assure that local Affiliates have the best available information.
7. **Consider disseminating this helpful resource on selection and implementation of quality, evidence-based programs and strategies**: the Coalition for Evidence-Based Policy's document, *Identifying and implementing educational practices supported by rigorous evidence: A user friendly guide* published by the U.S. Department of Education in 2003, which discusses this and other issues related to selecting and implementing evidence-based practices.

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Appendix A

Review and Identification Steps and Criteria

Chart A-1. Steps in Risk Factor Identification

Step 1: Risk Factor Literature Search

Summarized major trends in risk factors
- Searched recent, relevant literature
  - ERIC & other e-databases, 1980-2005
  - NDPC/N library materials
  - Internet search
  - References in key documents
- Reviewed literature and summarized major trends in risk factors

Step 2: Key Risk Factor Domains and Categories Identification

Identified key factor domains and categories for factor search
- Developed sample matrix with domains, factor categories, and sample risk factors
- CIS staff rated domains and factor categories for relevance and importance
- Identified risk factor domains and categories for NDPC/N search

Step 3: Study Selection Criteria

Reduced citations to specific research studies
Reviewed only those articles that included all of the following:
(1) Direct analysis of data source
(2) School dropout and/or high school graduation as outcome
(3) Longitudinal data over at least two years
(4) Variety of predictors in several domains
(5) Use of multivariate statistics/models
(6) Sample size of 30 or more students classified as dropouts

Step 4: Initial Risk Factor Matrix Development

Identified risk factors from selected studies
- Selected 21 studies based on 12 data sources
- Searched for factors in individual and family domains and in the school environment category of school domain
- Developed initial matrix with all significant factors from each source
- Collapsed similar factors into single factor

Step 5: Significant Risk Factor Identification

Identified significant risk factors from selected studies
- In final selection from initial matrix, factor was:
  (1) Significantly ($p \leq .10$) related to school dropout in multivariate analysis
  (2) Significant in at least two data sources

Step 6: Risk Factor by School Level Identification

Identified significant risk factors by school level
To be identified as a primary risk factor at a particular school level, factor was:
(1) Measured at a particular grade or school level in the analysis
(2) Significantly ($p \leq .10$) related to school dropout at that grade or school level in multivariate analysis
(3) Significant in at least two data sources

Chart A-2. Steps in Exemplary Program Identification

Step 1: Exemplary Program Search

Identified exemplary programs from existing program matrix

- Began with *The Matrix of Prevention Programs* with 12 program sources
- Removed four sources from review, due to issues of rigor in program selection criteria, reducing matrix to eight sources
- Selected additional sources to fill in program gaps using comparable selection criteria

Step 2: Exemplary Program Selection Criteria

Identified exemplary programs

- To be selected as exemplary, the program:
  (1) Was identified in the top tier in at least two sources
- Then from this list, programs with the following were included:
  (1) Currently in operation
  (2) No major revisions since the ranking of the program
  (3) Consistent, positive evaluation outcomes
  (4) Target K-12 school populations

Step 3: Additional Program Search

Identified additional exemplary programs from other sources

- Selected four quality after-school programs identified from NDPC/N-CIS review
- Reviewed additional sources to fill in program gaps using comparable selection criteria
- Selected five programs that were identified as being effective in at least two sources

Chart A-3. Steps in Exemplary Program Component and Strategy Identification

I. Key Components

Step 1: Exemplary Program Component Description

Identified components used in exemplary programs
- Reviewed program descriptions and identified components of each identified exemplary program

Step 2: Key Components Identification

Identified key components of exemplary programs
- Identified components consistently appearing across programs and highlighted in program reviews
- Classified identified key components into groups

II. Evidence-Based Strategies and Strategy Categories

Step 1: Strategy Category Selection

Identified categories of strategies used in exemplary programs
Derived categories of strategies from a combination of the following:
(1) Program categories used by the OJJDP's Model Program Guide Web site
(2) List of services commonly used by CIS local Affiliates
(3) Categories that emerged from a review of the approaches used by the 46 identified quality programs

Step 2: Strategy Category Identification

Identified evidence-based strategies used by exemplary programs
- Reviewed program descriptions and classified strategies into the categories

Appendix B

Risk Factor Domains and Categories

Table B-1. Sample Individual Risk Factor Categories and Sample Factors

Category	Risk Factor
STATUS/UNALTERABLE FACTORS	
Background Characteristics	▪ Low SES ▪ Homelessness/high residential mobility ▪ Non-English-speaking
Biological/ Physiological Traits	▪ Male (Battin-Pearson et al., 2000) ▪ Minority (Battin-Pearson et al., 2000) ▪ Physical disability (Lehr et al., 2004) ▪ Chronic illness ▪ Mental illness
Skills & Abilities	▪ Cognitive, emotional, or behavioral disability (Lehr et al., 2004) ▪ Low cognitive abilities ▪ Limited academic ability (Wehlage & Rutter, 1986)
ALTERABLE FACTORS	
Non-school-Related Factors	
Adult Responsibilities	▪ Teen parent (Rumberger, 2001) ▪ Work more than 20 hrs./week in high school (Rumberger, 2001) ▪ Needed to get a job/needed to keep job (Jordan et al., 1994) ▪ Early marriage (Rosenthal, 1998) ▪ Family responsibilities like translating for parents or caring for siblings (Rosenthal, 1998)
Attitudes, Values, & Beliefs	▪ Bonding to antisocial peers (Battin-Pearson et al., 2000) • Low occupational aspirations (Rumberger, 2001) • External locus of control (Ekstrom et al., 1986) • Greater need for autonomy than social conformity (Rosenthal, 1998) ▪ Low self-esteem and self-confidence (Rosenthal, 1998)
Behavior	▪ Spends no time each week reading for fun (Gleason & Dynarski, 2002) ▪ Early sexual involvement (Battin-Pearson et al., 2000) ▪ General deviance—drug use, pregnancy, early sexual activity (Battin-Pearson et al., 2000) ▪ Serious trouble with the law (Ekstrom et al., 1986)
Experiences	▪ Experience stressful life event (Lehr et al., 2004)

Table B-1. Sample Individual Risk Factor Categories and Sample Factors (cont.)

Category	Risk Factor
School-Related Factors	
School Performance	▪ Poor academic achievement, based on grades and scores (Rumberger, 2001) ▪ Retention (Rumberger, 2001) ▪ Over-age for grade level (Gleason & Dynarski, 2002) ▪ Poor reader ▪ Trouble keeping up with schoolwork (Jordan et al., 1994)
Education Stability*	▪ Student school mobility (Rumberger, 2001); attended five or more schools in lifetime (Gleason & Dynarski, 2002) ▪ Changes in services/placement
Academic Engagement**	▪ Does not do/does less homework (Ekstrom et al., 1986) ▪ Cuts classes (Ekstrom et al., 1986; Wehlage & Rutter, 1986) ▪ Low number of credits earned in school (Rumberger, 2001) ▪ Low expectations for school attainment (Rumberger, 2001; Wehlage & Rutter, 1986) ▪ Being unsure of graduating from high school (Gleason & Dynarski, 2002)
Social Engagement*	▪ Low participation in school activities (Rosenthal, 1998) ▪ Alienation from peers
Behavioral Engagement**	▪ Frequent truancy ▪ Vandalism ▪ High absenteeism (Gleason & Dynarski, 2002: Rumberger, 2001) ▪ Discipline issues (Ekstrom et al., 1986; Rumberger, 2001) ▪ Previously dropped out (Gleason & Dynarski, 2002) ▪ Suspensions or expulsions (Ekstrom et al., 1986; Wehlage & Rutter, 1986)
Psychological ** Engagement	▪ Dissatisfaction with the way their education is going (Wehlage & Rutter, 1986) ▪ Apathy ▪ Hostility toward school/don't like school (Jordan et al., 1994) ▪ Low attachment/bonding to school ▪ Feel like don't belong at school (Jordan et al., 1994) ▪ Hard time getting along with teachers

*Rumberger, 2001.
**Christenson, 2002, as cited in Lehr et al., 2004.

Table B-2. Sample Community Risk Factor Categories and Sample Factors

Category	Risk Factor
NEIGHBORHOOD	
STATUS/UNALTERABLE FACTORS	
Environment	▪ High levels of violence (Rosenthal, 1998) ▪ High levels of arson or drug-related crime (Rosenthal, 1998) ▪ High rates of mobility (Rosenthal, 1998)
Location/Type	▪ Urban ▪ South or west
Socioeconomic Status (SES)	▪ Poor neighborhoods ▪ Low level of education (Goldschmidt & Wang, 1999) ▪ High % female-headed households (Rosenthal, 1998) ▪ High % adult dropouts (Rosenthal, 1998)
PEERS	
ALTERABLE FACTORS	
Attitudes, Values, & Beliefs	▪ Friends who don't like school ▪ Friends with low educational aspirations
Behavior	▪ Antisocial/delinquent friends ▪ Friends who drop out
Experiences	▪ Peer rejection

Table B-3. Sample Family Risk Factor Categories and Sample Factors

Category	Risk Factor
STATUS/UNALTERABLE FACTORS	
Background Characteristics	▪ Low SES (Battin-Pearson et al., 2000) ▪ Family receipt of public assistance (Gleason & Dynarski, 2002) ▪ Parents unemployed (Lehr et al., 2004) ▪ Parents' lack of education ▪ Single parent family ▪ Parent was teen parent (Alexander et al., 2001) ▪ High household mobility (Lehr et al., 2004) ▪ Non-English speaking household (Rosenthal, 1998) ▪ Large household
Level of Household Stress*	▪ High family stress (Rosenthal, 1998) ▪ Child abuse ▪ Substance use (Rosenthal, 1998) ▪ Presence of family conflict (Rosenthal, 1998) ▪ Presence of financial problems (Rosenthal, 1998) ▪ Presence of health problems (Rosenthal, 1998) ▪ Lack of health insurance (Rosenthal, 1998) ▪ Pregnant teen in household or lack of needed child care (Rosenthal, 1998) ▪ High levels of family change (divorce, marriage, family move, illness, death, adults leaving household, adults entering household) (Alexander et al., 2001)
ALTERABLE FACTORS	
Family Dynamics	▪ Permissive parenting styles (Lehr et al., 2004) ▪ Low monitoring of everyday activities (Rosenthal, 1998)
Attitudes, Values, & Beliefs About Education**	▪ Having sibling that dropped out (Gleason & Dynarski, 2002) ▪ Low parental educational expectations (Alexander et al., 2001) ▪ Low parental expectations for behavior at school (Alexander et al., 2001) ▪ Low sense of child's abilities to do schoolwork (Alexander et al., 2001)
Behavior Related to Education**	▪ Parents don't talk to them about what studied at school (Gleason & Dynarski, 2002) ▪ Fewer study aides present in home (Ekstrom et al., 1986) ▪ Lack of reading material in the home

*Rosenthal (1998)
**Christenson, 2002, as cited in Lehr et al., 2004.

Table B-4. Sample School Risk Factor Categories and Sample Factors

Type	Risk Factor
STATUS/UNALTERABLE FACTORS	
Student Body Characteristics	▪ High % low SES ▪ High % racial/ethnic minority students ▪ High mobility rates ▪ High rates of absenteeism ▪ High ESL population ▪ High special education population
School Resources	▪ High student-teacher ratio ▪ Large school size (Lehr et al., 2004)
School Structure	▪ Public schools
ALTERABLE FACTORS	
Academic Policies & Practices	▪ High rates of retention (Alexander et al., 2001; Goldschmidt & Wang, 1999) ▪ Ability tracking (Lehr et al., 2004) ▪ Little interactive teaching (Obasohan & Kortering, 1999) ▪ Raising academic standards without appropriate support (Lehr et al., 2004) ▪ No differentiated instruction/learning styles
Supervision & Discipline Policies and Practices	▪ Frequent use of suspension (Lehr et al., 2004) ▪ School discipline policy seen as unfair (Rumberger, 1995) ▪ % misbehaving (Goldschmidt & Wang, 1999)
School Environment	▪ Violence and crime in school or school neighborhood ▪ Teachers perceived as not caring about students ▪ Negative school climate (Lehr et al., 2004) ▪ Few personal contacts from staff (Obasohan & Kortering, 1999) ▪ High % of at-risk peers (Goldschmidt & Wang, 1999) ▪ Low expectations by teachers

Table B-5. CIS Staff Survey Ratings of Relevant Domains and Risk Factor Categories for NDPC/C Review*

Domain	Category	Average
Individual	Attitudes, Values, & Behavior	3
Individual	Behavior	2.85
Individual	School Performance	2.85
Individual	Academic Engagement	2.85
Individual	Behavioral Engagement	2.71
Individual	Psychological Engagement	2.71
Family	Household Stress	2.71
Individual	Adult Responsibilities	2.57
Individual	Social Engagement	2.57
Family	Background Characteristics	2.57
Family	Attitudes, Values, & Behavior	2.57
Family	Behavior Related to Education	2.57
School	Environment	2.57
Individual	Background Characteristics	2.43
Individual	Experiences	2.42
Community	Socioeconomic Status	2.42
Community	Environment	2.28
School	Student Body Characteristics	2.28
Community	Attitudes, Values, & Behavior	2.14
Community	Behavior	2
Community	Experiences	2
Family	Family Dynamics	2
School	Supervision & Discipline Policies & Practices	2
Individual	Skills/Abilities	1.71
Individual	Education Stability	1.71
School	Resources	1.71
School	Academic Policies & Practices	1.71
Individual	Biological/Physiological Traits	1.57
Community	Location/Type	1.57
School	Structure	1.42

*Rows shaded in gray are those CIS selected for factor identification.

Appendix C

Additional Risk Factor Charts and Information

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
I. Biological/Physiological Traits												
Female students				Goldschmidt & Wang (1999); Rumberger (1995)								
White students				Teachman et al. (1996)								
White & Hispanic students			Ekstrom et al. (1986)									
Black students				Goldschmidt & Wang (1999) before 10th grade only								
White males										Cairns et al. (1989)		
II. Skills & Abilities												
Disability												
part. learning disabled & seriously emotionally disturbed									Wagner et al. (1993)			

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Student has learning problem				Kaufman et al. (1992)								
Student has emotional problem				Kaufman et al. (1992)								
Student was in special ed				Kaufman et al. (1992)								
Low IQ score	Lloyd (1978)											
II. Non-School Related												
Adult Responsibilities												
# hours worked pr week												
Work more than 20 hrs per week				Goldschmidt & Wang (1999)								
Working 15+ hours per week			Barro & Kolstad (1987)									
Number of hours worked			Wehlage & Rutter (1986)									

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Employment obligations—had to work; hard to combine school and work				Jordan et al. (1994)								
Marriage and parenthood												
Marriage and child-bearing			Barro & Kolstad (1987)									
Parenthood						Gleason & Dynarski (2002)				Cairns et al. (1989)		
Family obligations—became parent; had to care for family member; had to support family				Jordan et al. (1994)								
Attitudes, Values & Behaviors												
Bonding to high risk/antisocial peers		Elliott & Voss (1974)			Battin-Pearson et al. (2000)							

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Peer social group also more likely to drop out		Elliott & Voss (1974) males								Cairns et al. (1989		
High-risk/ deviant behavior												
General deviance: Past year self-reports of drug use, violent and nonviolent behaviors					Battin-Pearson et al. (2000)							
Adolescent marijuana use 40+ times in lifetime								Ensminger et al. (1996)				
Serious trouble with the law			Wehlage & Rutter (1986)									
Student smokes				Kaufman et al. (1992)								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Lots of time spent w/friends outside of school											Janosz et al. (1997)	
Seeing friends 4-5 times per week outside of school in 12th grade									Wagner et al. (1993)			
Low student religiosity			Barro & Kolstad (1987)									
Low SES orientation (gang, fear of failure)											Janosz et al. (1997)	
Withdrawn/ depressed											Janosz et al. (1997)	
Experiences												
Lot of available allowance money											Janosz et al. (1997)	

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
III. School-Related												
School Performance												
Low grades and/or test scores												
Low math achievement				Ingels et al. (2002)								
Low math achievement scores			Ekstrom et al. (1986)									
Low math grades				Kaufman et al. (1992)				Ensminger et al. (1996)				
Low English grades				Kaufman et al. (1992)								
Low grades			Wehlage & Rutter (1986); Ekstrom et al. (1986)			Gleason & Dynarski (2002)					Janosz et al. (1997)	
Low grades—males								Ensminger & Slusarcick (1992)				

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Low test scores			Wehlage & Rutter (1986)									Jimerson et al. (2000)
Low grades and test scores				Rumberger (1995)	Battin-Pearson et al. (2000)		Alexander et al. (2001)					
Low academic competence										Cairns et al. (1989)		
Failed class									Wagner et al. (1993)			
Low grades or scores/reading	Lloyd (1978)											
Low grades or scores/ language skills	Lloyd (1978)											
Lack of academic success		Elliott & Voss (1974)										
Student was failing at school			Ekstrom et al. (1986)	Jordan et al. (1994)								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Student couldn't keep up with schoolwork				Jordan et al. (1994)								
Retention/non-promotion/ overage for grade level				Goldschmidt & Wang (1999); Kaufman et al. (1992); Rumberger (1995)			Alexander et al. (2001)		Wagner et al. (1993)	Cairns et al. (1989)	Janosz et al. (1997)	
Age/retention	Lloyd (1978) – age for boys, retention for girls											
Overage by 2+ years						Gleason & Dynarski (2002)						

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Education Stability												
Changing schools												
# times changed schools				Kaufman et al. (1992); Rumberger (1995); Teachman et al. (1996)								
Attended 5+ schools						Gleason & Dynarski (2002)						
Academic Engagement												
Low/inconsistent attendance												
Cuts class once a week+				Kaufman et al. (1992)								
Truancy—# days missed when not sick			Wehlage & Rutter (1986)									
Tardy/late to school			Wehlage & Rutter (1986)	Kaufman et al. (1992) -- 5 + days in last month								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Absent five + days in last month				Kaufman et al. (1992); Rumberger (1995)								
Total number of absences	Lloyd (1978)						Alexander et al. (1997)		Wagner et al. (1993)			
20+ days absent						Gleason & Dynarski (2002)						
Low education expectations												
Student expects not to get high school diploma/ unsure of graduation				Kaufman et al. (1992)		Gleason & Dynarski (2002)						
Student has low expectations			Wehlage & Rutter (1986)	Rumberger (1995)				Ensminger & Slusarcick (1992)				

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Low commitment to school												
One composite variable: Low student ed expectations, low self - assessment of school success, low engagement attitudes—didn't like school, etc.							Alexander et al. (2001)					
One composite variable: Low commitment to schooling: Attitude toward school, self-report of competence, importance of success and educational aspirations.											Janosz et al. (1997)	

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
One composite variable: School normlessness (self-rep of amt of homework, cutting classes, acting out, give teachers problems, didn't like school)		Elliott & Voss (1974)										
Lack of effort												
Low amount of time spent on homework				Kaufman et al. (1992)								
Does little homework						Gleason & Dynarski (2002)						
Teacher said student rarely completes homework				Kaufman et al. (1992)								
Came unprepared for class				Kaufman et al. (1992)								
Teacher thought was underachiever				Kaufman et al. (1992)								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Student thought teacher unsatisfied with their performance								Ensminger & Slusarcick (1992)				
Didn't take vocational courses/work experiences (SD)									Wagner et al. (1993)			
Social Engagement												
No extracurricular participation												
Did not participate in extracurricular activities (e.g. sports, clubs, chorus, newspaper, etc.)				Ingels et al. (2002) 8th grade								
School social isolation; participated in few/no clubs, school activities or spent little time; had no teacher to go to for advice		Elliott & Voss (1974) 9-12 grades										

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Didn't belong to school or community group (SD)									Wagner et al. (1993) 9-12 gr			
No outside activities				Rumberger (1995)								
Student seen by peers as not at all a good student				Kaufman et al. (1992)								
Poor peer relations at school												Jimerson et al. (2000)
Behavioral Engagement												
Misbehavior/ disciplinary problems at school												
Misbehavior				Goldschmidt & Wang (1999); Rumberger (1995)		Gleason & Dynarski (2002)						
Sent to office one or more times in last month				Kaufman et al. (1992)								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Discipline problems: cutting class; disciplinary problems; suspensions			Wehlage & Rutter (1986)									
Behavior problems/anti-social behavior: cutting class; disciplinary problems; suspensions; trouble with police			Barro & Kolstad (1987); Ekstrom et al. (1986)									
Engagement behaviors—disciplinary problems, cutting class/skipping school							Alexander et al. (2001)					
Teacher thought student was disruptive				Kaufman et al. (1992)								
Problem behaviors at school												Jimerson et al. (2000)

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Expelled/suspended too often				Jordan et al. (1994)								
High aggression										Cairns et al. (1989)		
Early aggression (males)								Ensminger & Slusarcick (1992)				
Psychological Engagement												
Didn't like school			Ekstrom et al. (1986)									
Alienated from school—didn't like school; couldn't get along with teachers; didn't belong at school				Jordan et al. (1994)								
Felt they were viewed negatively by peers				Rumberger (1995)								

Table C-1. Significant Individual Factors From Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Child's locus of control							Alexander et al. (1997)					
Spends no time each week reading for fun						Gleason & Dynarski (2002)						

NOTE: Factors appearing in ***bold italics*** in the table are factor groupings for the indented factors listed below the grouping name.

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
I. Background Characteristics												
Low family socioeconomic status (SES)	Lloyd (1978)	Elliott & Voss (1974)	Ekstrom et al. (1986); Wehlage & Rutter (1986)	Goldschmidt & Wang (1999); Ingels et al. (2002); Jordan et al. (1994); Rumberger (1995); Teachman et al. (1996)	Battin-Pearson et al. (2000)	Gleason & Dynarski (2002)	Alexander et al. (1997); Alexander et al. (2001)	Ensminger & Slusarcick (1992)		Cairns et al. (1989)		
Low family income			Barro & Kolstad (1987)						Wagner et al. (1993)			
Father's low level occupation	Lloyd (1978) – for males											
Parents' low level occupations			Barro & Kolstad (1987)									
Mother's low education—SES proxy	Lloyd (1978) – for females											

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Parents low level of education (over and above SES)			Barro & Kolstad (1987)	Goldschmidt & Wang (1999); Teachman et al. (1996)							Janosz et al. (1997)	
Mother's low level of education in addition to SES								Ensminger et al. (1996); Ensminger & Slusarcick (1992) – for males				
Mother worked during elementary school			Barro & Kolstad (1987)									
# siblings	Lloyd (1978)		Barro & Kolstad (1987)									
Family size—those in families with 2-3 people more likely to drop out than those w/ 4-5				Kaufman et al. (1992)								
Not living with both natural parents			Barro & Kolstad (1987); Ekstrom et al. (1986)									

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Living with a stepparent				Rumberger (1995); Teachman et al. (1996)								
Living with a divorced mother				Teachman et al. (1996)								
Parents separated, divorced, deceased or remarried	Lloyd (1978)											
Single-parent family				Goldschmidt & Wang (1999); Kaufman et al. (1992)								
II. Level of Household Stress												
Family disruption												
Family disruption (divorce, frequent moving, # siblings, mother working)											Janosz et al. (1997)	
# Family changes (divorce, death, remarriage, family moving)							Alexander et al. (1997); Alexander et al. (2001)					

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
High family mobility												
Family moved between 1st grade and adolescence								Ensminger et al. (1996) — females				
See school moves in individual factors												
III. Family Dynamics												
Quality of early caregiving												Jimerson et al. (2000)
Summer care out of home w/other adult (e.g. summer camp)							Alexander et al. (1997)					
No curfew on week nights								Ensminger et al. (1996) Ensminger & Slusarcick (1992) – females				
Low family acceptance											Janosz et al. (1997)	
High degree of regulation											Janosz et al. (1997)	

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
IV. Family Support for Education												
Attitudes, Values, and Beliefs About Education												
Parents had low ed expectations												
Mothers had low expectations—females								Ensminger & Slusarcick (1992)				
Parents had low expectations for ed attainment for child				Kaufman et al. (1992); Rumberger (1995)								
Had one or more older siblings that dropped out				Kaufman et al. (1992); Teachman et al. (1996)		Gleason & Dynarski (2002)						
Exposure to dropout in the home (parent ed, siblings dropping out, parent expectations for ed)		Elliott & Voss (1974)										
Behavior Related to Education												

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Parent not involved in PTA or school activities				Kaufman et al. (1992)								
No/low contact between parent and school												
Few school/ teacher contacts about performance or behavior				Rumberger (1995)								
No/few parent-teacher conferences or school contacts (teacher reports)												Jimerson et al. (2000)
Parents don't talk to child about school						Gleason & Dynarski (2002)						
Few parent-child discussions about school experiences, courses, sch planning				Kaufman et al. (1992); Teachman et al. (1996)								
Lack of home study aids			Ekstrom et al. (1986) — Whites									

Table C-2. Significant Family Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Parent rarely checks homework				Goldschmidt & Wang (1999)								

NOTE: Factors appearing in ***bold italics*** in the table are factor groupings for the indented factors listed below the grouping name.

Table C-3. Significant School Factors from Selected Longitudinal Datasets

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	High School & Beyond 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1st grade class 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm. Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
School Environment												
% high-risk incoming class in high school impacts school avg. dropout				Goldschmidt & Wang (1999)								
% student body misbehaving				Goldschmidt & Wang (1999)								
Moderate to high level of school problems (attendance, violence/safety, abuse of teachers)				Kaufman et al. (1992)								
High % see discipline as unfair				Rumberger (1995)								
Students who give low ratings of teacher support (interest, praise, listening)				Rumberger (1995)								

Table C-4. General Observations on Factors Across Studies and Data Sources

Risk Factor	6th Grade Cohort 1960's	Cal Study 1963-1967	HS & B 1980-1982	NELS:88 1988-1990	Seattle Project 1985-1993	SDDAP 1991-1995	Baltimore Schools 1982-1996	Chicago Schools 1966-1993	NLTS 1985-1986 to 1990-1991	Three Comm Study 1983-1988	Canadian Study 1974 & 1985	At-risk Sample 1970's to 1990's
Dropout as cumulative/ developmental process				Jordan et al. (1994)			Alexander et al. (1997)					Jimerson et al. (2000)
Higher # of factors =more risk of dropout				Ingels et al. (2002)								
Multiple risk factors better predictor			Wehlage & Rutter (1986)			Gleason & Dynarski (2002)				Cairns et al. (1989)		
Regression predictor explains most variance						Gleason & Dynarski (2002)						

Table C-5. Initial Individual Risk Categories and Factors*

Category	Risk Factor
I. Individual Background Characteristics	▪ Has a disability (particularly learning disabilities & seriously emotionally disturbed)
II. Non-School-Related Factors	
Early Adult Responsibilities	▪ Hours worked per week ▪ Marriage and parenthood
Social Attitudes, Values & Behaviors	▪ High-risk/antisocial friends (deviant behavior, likely to drop out) ▪ High-risk/deviant behavior (violent, drug use, trouble w/law)
Experiences	*No factors were cited in more than one data source.*
III. School-Related Factors	
School Performance	▪ Low test scores and grades ▪ Retention/overage for grade
Education Stability	▪ Changing schools
Academic Engagement	▪ Poor attendance ▪ Low educational aspirations/expectations ▪ Low effort/lack of commitment to schooling in attitudes and behavior
Social Engagement	*No factors were cited in more than one data source.*
Behavioral Engagement	▪ Misbehavior/disciplinary problems at school ▪ Early/high aggression, particularly for males
Psychological Engagement	▪ Student didn't like school

Table C-6. Initial Family Risk Categories and Factors*

Category	Risk Factor
I. Background Characteristics	▪ Low family SES ▪ Low level of education of parents ▪ Larger number of siblings ▪ Not living with both natural parents
II. Level of Household Stress	*No factors were cited in more than one data source.*
III. Family Dynamics	*No factors were cited in more than one data source.*
IV. Family Support for Education	
Attitudes, Values and Beliefs about Education	▪ Parents have low expectations for educational attainment of children ▪ One or more older siblings dropped out
Behavior Related to Education	▪ No/low contact between parent and school ▪ Parents don't talk to child about school

*Reported in two or more selected studies (those using multivariate statistics/modeling from longitudinal data sources) as key predictor of dropping out of school.

Table C-7. Initial School Environment Risk Categories and Factors

Category	Risk Factor
School Environment	*No factors were cited in more than one data source.*

Table C-8. Significant Individual Risk Factors in At Least One Data Source*

Category	Elementary School	Middle School	High School
Individual Background Characteristics			
▪ Has a learning disability or emotional disturbance		▪ VII: 8th grade students taking special education (Kaufman et al., 1992); 8th grade students with learning problems (Kaufman et al., 1992); 8th grade students with emotional problems (Kaufman et al., 1992)	▪ IX: 9-12th grades having a disability (particularly learning disabilities & seriously emotionally disturbed) (Wagner et al., 1993)
Early Adult Responsibilities			
▪ High number of work hours	N/A	▪ VII: 8th grade working 20+ hours (Goldschmidt & Wang, 1999)	▪ VII: 10-12th grade working 20+ hours (Goldschmidt & Wang, 1999) ▪ VIII: 10th grade working 15+ hours per week (Barro & Kolstad, 1987); number of hours worked (Wehlage & Rutter, 1986)
▪ Parenthood	N/A		▪ VI: 11th-12th grades having a child (Gleason & Dynarski, 2002) ▪ VIII: 10th grade marriage/ parenthood (Barro & Kolstad, 1987)
Social Attitudes, Values & Behaviors			
▪ High-risk peer group		▪ IV: 8th grade bonding to antisocial peers (bonding to close friends and items about their drug use, drinking, trouble they've been in) (Battin-Pearson, 2000)	▪ X: high school close friends likely to drop out (Elliott & Voss, 1974); close friends likely to be in trouble (Elliott & Voss, 1974)

Category	Elementary School	Middle School	High School
		▪ V: 7th grade membership in peer group with dropouts (Cairns et al., 1989)	
▪ High-risk social behavior		▪ II: 7-8th grades marijuana use (Ensminger et al., 1996) ▪ IV: 8th grade general deviance (self-reports of drug use, violent and nonviolent offense rates) (Battin-Pearson, 2000) ▪ VII: 8th grade students who smoke cigarettes (Kaufman et al., 1992)	▪ VIII: 10th grade serious trouble with the law (Wehlage & Rutter, 1986)
▪ Highly socially active outside of school			▪ IX: 12th grade students seeing friends 4-5 times per week outside of school (Wagner et al., 1993)
School Performance			
▪ Low achievement	▪ I: 3rd grade GPA for males (Lloyd, 1978); 3rd grade CAT reading score for males (Lloyd, 1978); 3rd grade reading grade for females (Lloyd, 1978); 3rd grade math CAT score for females (Lloyd, 1978) ▪ II: 1st grade poor grades for males (Ensminger & Slusarik, 1992) ▪ III: 1st grade poor performance (Alexander et al, 2001) ▪ XI: 1st grade poor achievement scores (Jimerson et al., 2000)	▪ I: 6th grade achievement (language skills and reading) (Lloyd, 1978) ▪ II: 7-8th grades math grades (Ensminger et al., 1996) ▪ IV: 8th grade poor academic performance (CAT total score–reading, language and math, GPA, self-report of grades) (Battin-Pearson, 2000) ▪ V: 7th grade academic competence (teacher ratings) (Cairns et al., 1989) ▪ VII: 8th grade low math achievement (Goldschmidt & Wang, 1999; Ingels et al., 2002); 8th grade poor English	▪ VI: 11-12th grades low grades (Gleason & Dynarski, 2002) ▪ VIII: 10th grade poor grades (Ekstrom et al., 1986; Wehlage & Rutter, 1986); 10th grade low math achievement test scores (Ekstrom et al., 1986); 10th grade low test scores (Wehlage & Rutter, 1986); 10th grade student left because failing (Ekstrom et al., 1986) ▪ IX: 9-12th grades ever failed a class (Wagner et al., 1993) ▪ X: high school lack of academic success (Elliott & Voss, 1974) ▪ XI: age 16 low achievement

Category	Elementary School	Middle School	High School
		grades (Kaufman et al., 1992); 8th grade poor math grades (Kaufman et al., 1992); 8th grade low reading achievement (Goldschmidt & Wang, 1999); 8th grade—was failing in school (Jordan et al., 1994); 8th grade low grades (Rumberger, 1995)	scores (Jimerson et al., 2000)
▪ Retention/overage for grade	▪ I: 3rd grades for females – retention in (Lloyd, 1978); 3rd grade age for males (Lloyd, 1978) ▪ III: 1st grade retention (Alexander et al., 2001); 2-5th grades retention (Alexander et al., 2001) ▪ VII: K-6 retention (Kaufman et al., 1992)	▪ I: 6th grade nonpromotion (Lloyd, 1978) ▪ III: 6-8th grades retention (Alexander et al., 2001) ▪ V: 7th grade overage (Cairns et al., 1989) ▪ VI: 8-9th grades overage by 2+ years (Gleason & Dynarski, 2002) ▪ VII: 8th grade retention (Goldschmidt & Wang, 1999; Rumberger, 1995); 6-8 retention (Kaufman et al., 1992)	▪ VI: 11-12th grades overage by 2+ years (Gleason & Dynarski, 2002) ▪ VII: 10-12th grades retention (Goldschmidt & Wang, 1999) ▪ IX: 9-12th grades overage for grade (Wagner et al., 1993)
School Engagement			

Category	Elementary School	Middle School	High School
▪ Poor attendance	▪ I: 3rd grade absences (Lloyd, 1978) ▪ III: 1st grade absences (Alexander et al., 1997)	▪ I: 6th grade absences (Lloyd, 1978) ▪ VI: 8-9th grade absent 20+ days during school year (Gleason & Dynarski, 2002) ▪ VII: 8th grade absent 5+ days in past month (Kaufman et al., 1992; Rumberger, 1995); 8th grade tardy 5+ days in past month (Kaufman et al., 1992); 8th grade cuts class at least once per week (Kaufman et al., 1992)	▪ VI: 11-12th grade absent 20+ days during school year (Gleason & Dynarski, 2002) ▪ VIII: 10th grade truancy/cutting class and tardies (Wehlage & Rutter, 1986) ▪ IX: 9-12th grades absenteeism (Wagner et al., 1993)
▪ Low educational expectations		▪ II: 7-8th grades—low education aspirations for males (Ensminger & Slusarik, 1992) ▪ VII: 8th grade low completion expectations (Kaufman et al., 1992; Rumberger, 1995)	▪ VI: 11-12th grades unsure of high school graduation (Gleason & Dynarski, 2002) ▪ VIII: 10th grade low expectations (Wehlage & Rutter, 1986)
▪ Lack of effort		▪ VII: 8th grade low completion of homework (Kaufman et al., 1986); 8th grade unprepared for class (Kaufman et al., 1986); 8th grade teacher views as underachiever (Kaufman et al., 1986)	▪ VI: 11-12th grades does little homework (Gleason & Dynarski, 2002)
▪ Low commitment to school		▪ VII: 8th grade—alienated from school (Jordan et al., 1994)	▪ VIII: 10th grade student didn't like school (Ekstrom et al., 1986) ▪ X: high school school normlessness (low homework, act out, skipping, didn't like school) (Elliott & Voss, 1974) ▪ III: 9th grade low school engagement (low ed

Category	Elementary School	Middle School	High School
			expectations and self-assessment of school success, don't like school) (Alexander et al., 2001)
▪ No extracurricular participation		▪ VII: 8th grade—did not participate in extracurricular activities (Ingels et al., 2002)	▪ IX: 9-12th grades—did not belong to school or community group (Wagner et al., 1993) ▪ X: 9-12th grades—school social isolation—did not participate in extracurricular activities (Elliott & Voss, 1974)
School Behavior			
▪ Misbehavior	▪ XI: 1st grade problem behaviors (Jimerson et al., 2000)	▪ VII: 8th grade misbehavior (Goldschmidt & Wang, 1999; Rumberger, 1995); 8th grade sent to office 1+ times in past month (Kaufman et al., 1992); 8th grade teacher thought student was disruptive (Kaufman et al., 1992); expelled/suspended too often (Jordan et al., 1994)	▪ III: 9th grade problem behaviors at school (Alexander et al., 2001) ▪ VI: 11-12th grades disciplinary problems at school (Gleason & Dynarski, 2002) ▪ VII: 10-12th grades misbehavior (Goldschmidt & Wang, 1999) ▪ VIII: 10th grade antisocial behavior/discipline problems (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage & Rutter, 1986) ▪ XI: age 16 problem behaviors (Jimerson et al., 2000)
▪ Early aggression	▪ II: 1st grade aggressive behavior for males (Ensminger & Slusarik, 1992)	▪ V: 7th grade aggressive behavior (Cairns et al., 1989)	

*Data Sources

I. Sixth grade cohort (Lloyd, 1978)
II. Chicago schools (Ensminger et al., 1996; Ensminger & Slusarcick, 1992)
III. Baltimore schools (Alexander et al., 2001; Alexander et al., 1997)
IV. Seattle Social Development Group data (Battin-Pearson et al., 2000)
V. Three community study (Cairns et al., 1989)
VI. School Dropout Demonstration Assistance Programs (SDDAP) (Gleason & Dynarski, 2002)
VII. National Education Longitudinal Study (NELS) (Goldschmidt & Wang, 1999; Ingels et al., 2002; Jordan et al., 1994; Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996)
VIII. High School and Beyond (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage et al., 1986)
IX. National Longitudinal Transition Study of Special Education Students (NLTS) (Wagner et al., 1993)
X. California study (Elliott & Voss, 1974)
XI. At-risk sample (Jimerson et al., 2000)

Table C-9. Significant Family Risk Factors by School Level in At Least One Data Source*

Category	Elementary School	Middle School	High School
Family Background Characteristics			
▪ Low socioeconomic status (SES)	▪ I: 3rd grade—father's occupation for males; mother's education for females (Lloyd, 1978) ▪ II: 1st grade for males: nonpoor aggressive males more likely to drop out (Ensminger & Slusarik, 1992) ▪ III: 1st grade SES (Alexander et al., 2001; Alexander et al., 1997)	▪ I: 6th grade—SES measures (Lloyd, 1978) ▪ IV: 8th grade low SES—eligibility for free lunch program (Battin-Pearson, 2000) ▪ V: 7th grade SES—from employment rating scale score (Cairns et al., 1989) ▪ VI: 6th grade—receipt of public assistance (Gleason & Dynarski, 2002) ▪ VII: 8th grade low SES (Goldschmidt & Wang, 1999; Ingels et al., 2002; Jordan et al., 1994; Rumberger, 1995; Teachman et al., 1996)	▪ VI.: 9th grade—receipt of public assistance (Gleason & Dynarski,2002) ▪ VII: 10-12h grades low SES (Goldschmidt & Wang, 1999) ▪ VIII: 10th grade low SES (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage & Rutter, 1986) ▪ IX: high school low SES (Wagner et al., 1993) ▪ X: high school low SES (Elliott & Voss, 1974)
▪ High family mobility		▪ VI: 8-9th grades attended five or more schools during lifetime (Gleason & Dynarski, 2002) ▪ VII: 8th grade changed schools at least once since 1st grade (risk increases w/each move) (Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996)	
▪ Low education level of parents	▪ II: 1st grade—males only—parents had low level of education (Ensminger & Slusarcick, 1992); 1st grade – parents had low level of education (Ensminger et al., 1996)	▪ VII: 8th grade—parents had low level of education (Goldschmidt & Wang, 1999; Teachman et al., 1996)	▪ VII: 10-12th grades—parents had low level of education (Goldschmidt & Wang, 1999) ▪ VIII: 10th grade—parents had low level of education (Barro & Kolstad, 1987)

Category	Elementary School	Middle School	High School
▪ Large number of siblings	▪ I: 3rd grade—larger number of siblings (Lloyd, 1978)		▪ VIII: 10th grade—larger number of siblings (large families) (Barro & Kolstad, 1987)
▪ Not living with both natural parents	▪ I: 3rd grade—natural parents were separated, divorced, deceased, or remarried (Lloyd, 1978)	▪ VII: 8th grade—single-parent household (Goldschmidt & Wang, 1999; Kaufman et al., 1992); 8th grade – step-family household (Rumberger, 1995; Teachman et al., 1996); 8th grade—living w/divorced mother (Teachman et al., 1996)	▪ VII: 10-12th grades—single-parent household (Goldschmidt & Wang, 1999) ▪ VIII: 10th grade—living w/only one or none of parents (Barro & Kolstad, 1987); 10th grade—lack of both natural parents in home (Ekstrom et al., 1986)
▪ Family disruption	▪ III: 1st grade—high number of family changes (Alexander et al., 2001; Alexander et al., 1997)		
Family Engagement/ Commitment to Education			
▪ Low educational expectations		▪ II: 7-8th grades—females—mother had low expectations (Ensminger & Slusarcick, 1992) ▪ VII: 8th grade – parent had low expectations for ed attainment (Kaufman et al., 1992; Rumberger, 1995)	
▪ Sibling(s) have dropped out		▪ VII: 8th grade—had a sibling that dropped out (Kaufman et al., 1992; Teachman et al., 1996)	▪ VI: 11-12th grades—had a sibling that dropped out (Gleason & Dynarski, 2002)
▪ Low contact with school		▪ VII: 8th grade—Few school/ teacher contacts about performance or behavior (Rumberger, 1995) ▪ XI: 6th grade – low parent contacts w/school or teacher, based on teacher reports (Jimerson et al., 2000)	

Category	Elementary School	Middle School	High School
▪ Lack of conversations about school		▪ VI: 8-9th grades—parents don't talk to child about things studied in school (Gleason & Dynarski, 2002) ▪ VII: 8th grade—few parent-child discussions about school experiences/activities, topics studied, courses, school planning (Rumberger, 1995; Teachman et al., 1996)	▪ VI: 11-12th grades—parents don't talk to child about things studied in school (Gleason & Dynarski, 2002)

*Data Sources

I. Sixth grade cohort (Lloyd, 1978)
II. Chicago schools (Ensminger et al., 1996; Ensminger & Slusarcick, 1992)
III. Baltimore schools (Alexander et al., 2001; Alexander et al., 1997)
IV. Seattle Social Development Group data (Battin-Pearson et al., 2000)
V. Three community study (Cairns et al., 1989)
VI. School Dropout Demonstration Assistance Programs (SDDAP) (Gleason & Dynarski, 2002)
VII. National Education Longitudinal Study (NELS) (Goldschmidt & Wang, 1999; Ingels et al., 2002; Jordan et al., 1994; Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996)
VIII. High School and Beyond (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage et al., 1986)
IX. National Longitudinal Transition Study of Special Education Students (NLTS) (Wagner et al., 1993)
X. California study (Elliott & Voss, 1974)
XI. At-risk sample (Jimerson et al., 2000)

Table C-10. Significant Individual Risk Factors by School Level in At Least Two Data Sources*

Category	Elementary School	Middle School	High School
Individual Background Characteristics			
▪ Has a learning disability or emotional disturbance			
Early Adult Responsibilities			
▪ High number of work hours			▪ Working 20 or more hours per week (High School & Beyond; NELS)
▪ Parenthood			▪ Parenthood (High School & Beyond; SDDAP)
Social Attitudes, Values & Behavior			
▪ High-risk peer group		▪ Bonding to high-risk peers (Seattle Social Development Group data; Three community study)	
▪ High-risk social behavior		▪ Substance use (Chicago schools; Seattle Social Development Group data)	
▪ Highly socially active outside of school			
School Performance			
▪ Low grades and test scores	▪ Low overall academic performance (At-risk sample; Baltimore schools; Chicago schools—males only)	▪ Low achievement in language skills and English (NELS; Sixth grade cohort) ▪ Low achievement in reading (NELS; Sixth grade cohort) ▪ Low achievement in math (Chicago schools; NELS) ▪ Low overall academic performance (NELS; Seattle Social Development Group	▪ Low overall academic performance (At-risk sample; California study; High School & Beyond; NLTS; SDDAP)

Category	Elementary School	Middle School	High School
		data)	
▪ Retention/overage for grade	▪ Retention (Baltimore schools; NELS; Sixth grade cohort—females only)	▪ Retention (Baltimore schools; NELS; Sixth grade cohort) ▪ Overage by 2+ years (SDDAP; Three Community Study)	▪ Overage for grade (NLTS) ▪ Overage by 2+ years (SDDAP)
School Engagement			
▪ Poor attendance	▪ High number of absences (Alexander et al., 1997; Lloyd, 1978)	▪ High number of absences (Sixth grade cohort; NELS; SDDAP)	▪ High absenteeism (NLTS; SDDAP)
▪ Low educational expectations		▪ Low educational aspirations for males (Chicago schools) ▪ Low completion expectations (NELS)	▪ Low educational aspirations (High School & Beyond; SDDAP)
▪ Lack of effort			
▪ Low commitment to school			▪ Didn't like school (High School & Beyond; NELS) ▪ Overall low engagement and commitment in attitudes and behavior (Baltimore Schools; California Study)
▪ No extracurricular participation			▪ Did not participate in extracurricular activities (California Study; NLTS)
School Behavior			
▪ Misbehavior			▪ Discipline problems at school (High School & Beyond; NELS; SDDAP) ▪ Misbehavior/problem behaviors at school (At-risk sample; Baltimore schools)

Category	Elementary School	Middle School	High School
▪ Early aggression			

*Data Sources:
At-risk sample (Jimerson et al., 2000)
Baltimore schools (Alexander et al., 2001; Alexander et al., 1997)
California study (Elliott & Voss, 1974)
Chicago schools (Ensminger et al., 1996; Ensminger & Slusarcick, 1992)
High School and Beyond (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage et al., 1986)
National Education Longitudinal Study (NELS) (Goldschmidt & Wang, 1999; Ingels et al., 2002; Jordan et al., 1994; Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996)
National Longitudinal Transition Study of Special Education Students (NLTS) (Wagner et al., 1993)
School Dropout Demonstration Assistance Programs (SDDAP) (Gleason & Dynarski, 2002)
Seattle Social Development Group data (Battin-Pearson et al., 2000)
Sixth grade cohort (Lloyd, 1978)
Three community study (Cairns et al., 1989)

Table C-11. Significant Family Risk Factors by School Level in At Least Two Data Sources*

Category	Elementary School	Middle School	High School
Family Background Characteristics			
▪ Low socioeconomic status	▪ Low family SES (Baltimore Schools; Sixth grade cohort)	▪ Low family SES (NELS; Seattle Social Development Group data; Sixth grade cohort; Three community study)	▪ Low family SES (High School & Beyond; NELS)
▪ High family mobility		▪ Changed schools (NELS; SDDAP)	
▪ Low education level of parents			▪ Low level of education of parents (High School & Beyond; NELS)
▪ Large number of siblings			
▪ Not living with both natural parents			▪ Lack of both natural parents in home (High School & Beyond) ▪ Living in single-parent household (NELS)
▪ Family disruption			
Family Engagement/ Commitment to Education			
▪ Low educational expectations		▪ Low education expectations of one or more parents (Chicago schools; NELS)	
▪ Sibling(s) have dropped out			
▪ Low contact with school		▪ Low parent-school contacts (At-risk sample; NELS)	
▪ Lack of conversations about school		▪ Parents don't talk to child about school (NELS; SDDAP)	

*Data Sources:
At-risk sample (Jimerson et al., 2000)
Baltimore schools (Alexander et al., 2001; Alexander et al., 1997)
California study (Elliott & Voss, 1974)

Chicago schools (Ensminger et al., 1996; Ensminger & Slusarcick, 1992)
High School and Beyond (Barro & Kolstad, 1987; Ekstrom et al., 1986; Wehlage et al., 1986)
National Education Longitudinal Study (NELS) (Goldschmidt & Wang, 1999; Ingels et al., 2002; Jordan et al., 1994; Kaufman et al., 1992; Rumberger, 1995; Teachman et al., 1996)
National Longitudinal Transition Study of Special Education Students (NLTS) (Wagner et al., 1993)
School Dropout Demonstration Assistance Programs (SDDAP) (Gleason & Dynarski, 2002)
Seattle Social Development Group data (Battin-Pearson et al., 2000)
Sixth grade cohort (Lloyd, 1978)
Three community study (Cairns et al., 1989)

Appendix D

Individual and Family Domain Risk Factor Descriptions

Individual Background Characteristics: Has a learning disability or emotional disturbance

The only individual background characteristic of students found in this review to be a significant predictor of dropping out of school was whether or not the student had a learning disability or emotional disturbance. These students were those evaluated and identified by their school or school district as having these disabilities and thus being eligible to receive special education and related services under the Individuals with Disabilities Education Act (IDEA). These disabilities are two of the 12 categories of disabilities defined under the IDEA 2004 that make a child eligible for special education and related services: [1]

- Autism
- Deaf-blindness
- Hearing impairments
- Mental retardation
- Multiple disabilities
- Orthopedic impairments
- Other health impairments
- Serious emotional disturbance
- Specific learning disabilities
- Speech or language impairments
- Traumatic brain injury
- Visual impairments

Kaufman and his colleagues in an analysis of the National Education Longitudinal Study of 1988 (NELS) 8th-grade cohort in the 10th grade, found that students in special education in the spring of 1990 with specific learning disabilities were more than three times as likely to drop out as other students and those with emotional problems were more than five times as likely to drop out of school (1).

Wagner and her colleagues analyzed data from the National Longitudinal Transition Study of Special Education Students (NLTS), a national study of the school performance of students with disabilities begun in 1987 (2). These researchers found that students with learning disabilities and those identified as seriously emotionally disturbed were particularly vulnerable to dropping out. The average student with disabilities who left school early was 18 years of age at the time they dropped out and left in the final two years of high school having earned an average of only 10 credits.

Indicators

- Has an emotional disturbance
- Has a learning disability

Exemplary Programs That Address Risk Factor

Brief Strategic Family Therapy
Check & Connect
Cognitive Behavioral Therapy for Child Sexual Abuse
Coping Power
Fast Track
Functional Family Therapy

[1] *26th Annual (2004) report to Congress on the implementation of the Individuals with Disabilities Education Act*, volume 2, Table 4-1, by the Office of Special Education Programs, Washington, DC: U. S. Department of Education, Office of Special Education and Rehabilitation Services.

Helping the Noncompliant Child
Linking Interests of Families & Teachers
Multidimensional Treatment Foster Care
Multisystemic Therapy
Preventive Treatment Program
Strengthening Families Program
Strengthening Families Program for Parents and Youth 10-14
Success for All
Trauma-Focused Cognitive Behavioral Therapy

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Early Adult Responsibilities: High Number of Work Hours

Findings from the High School and Beyond (HS&B) survey of the sophomore class of 1980 indicate that putting in more than 15 hours a week on a job increases the likelihood that a student will drop out of school (1). While the overall dropout rate was 12 percent, the rate for students who worked 15 or more hours per week was 18 percent, 50 percent higher than those either not working or working less than 15 hours per week. For those working 22 or more hours per week, the dropout rate was 22 percent, or 100 percent higher than for other students.

A multivariate analysis of the HS&B data found differing effects of employment on dropout rates by race/ethnicity and gender (1). White males who worked were more likely to drop out regardless of the number of hours worked, while working 15 or more hours increased the risk for Hispanic males and 22 or more hours for Black males. White females were more likely to drop out if they worked 15 or more hours and Hispanic females if they worked under 22 hours but not over 22 hours. The risk of dropping out for Black females was not significantly impacted by employment status or number of hours worked.

Similar results were found for those employed in the National Education Longitudinal Study (NELS) (2). Working more than 20 hours a week while in school was a significant predictor of dropping out of school for both early (between 8th and 10th) and late (between 10th and 12th) dropouts, although it decreased in importance in later high school grades. Employment status was detrimental to completing school regardless of socioeconomic status. The researchers concluded that getting early experience in the labor market does not provide benefits after high school and only serves to increase the chances that a student will not graduate.

Indicators

- Amount of time spent each week working for pay on a job

Exemplary Programs That Address Risk Factor
No programs found with evidence that they directly addressed this risk factor.

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Early Adult Responsibilities: Parenthood

One of the consequences of becoming a parent while still in school is an increase in the likelihood of not graduating. Although they made up less than 5 percent of the sample, students in the High School and Beyond (HS&B) survey sample who reported being married, having children or both, made up 22 percent of the dropouts (1). Both marriage and parenthood dramatically increased the likelihood that female students of all race/ethnic groups dropped out of school. Forty percent of all female dropouts were married, had children or both. Married female students with children, regardless of race/ethnicity, were six times as likely to drop out of school as single, childless female students. Marriage and parenthood both significantly impacted the dropout rate for White males, and marriage significantly impacted the dropout rate for Hispanic males. Marriage and parenthood did not significantly impact the dropout rate for Black males.

In a longitudinal study of a sample of 7th graders in three separate communities, researchers found that all of the students who became parents during the study period dropped out of school (2). This included 15 students or 3 percent of the sample, nine females and six males. The majority of these students were already at high risk of dropping out prior to parenthood, due to high aggression ratings and low achievement.

Gleason and Dynarski (3), in an analysis of data from secondary schools in four cities, found that the dropout rate among high school students who had a child was 32 percent, while the average rate for all high school students in the sample was 15 percent. This was the highest dropout rate for any one risk factor analyzed, including high absenteeism (27 percent) and being over-age for grade more than two years (28 percent).

Indicators
- Has a child

Exemplary Programs That Address Risk Factor
Adolescent Sexuality & Pregnancy Prevention Program
Nurse-Family Partnership
Quantum Opportunities
Skills, Opportunities, and Recognition (SOAR)
Teen Outreach Program

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Social Attitudes, Values, and Behavior: High-Risk Peer Group

Researchers have found that affiliating with high-risk peers who drop out or engage in various types of antisocial behavior increases the risk of dropping out. When Battin-Pearson and colleagues (1) followed an ethnically diverse sample of 5th graders until they were 16, they found that, in addition to poor academic achievement, bonding to antisocial peers significantly increased the risk that a student would leave school early. Antisocial behavior included drug and alcohol use, misbehavior at school as well as any illegal behavior (such as stealing or vandalism) that could have gotten them in trouble with police. Those with close friendships to antisocial peers at age 14 were much more likely to leave high school early, regardless of how well they were doing academically at that age.

Other researchers found the same to be true of those who were close friends with peers who had dropped out. Cairns and several colleagues (2) gathered information on peer social group membership by asking students who their best friends were and obtaining descriptions of social cliques at their school. They found that students who dropped out of high school, whether they were male or female, had close friends in the 7th grade who also later dropped out. In their analysis of "intellectually capable dropouts " (students with grades of C or better and with IQ or test scores above the 30th percentile), Elliott and Voss found that exposure to dropout through close high school friends who dropped out was a relatively strong predictor of dropout (3).

Indicators

- Has close friendships with peers who are involved in high-risk, antisocial behavior (drug and alcohol use, misbehavior at school, illegal behavior, trouble with police, violence, or aggression)
- Has close friends who are likely to or have dropped out

Exemplary Programs That Address Risk Factor

Brief Strategic Family Therapy
CASASTART
Keepin' it REAL
Linking Interests of Families & Teachers
Multidimensional Family Therapy
Preventive Treatment Program

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Social Attitudes, Values, and Behavior: High-Risk Social Behavior

Battin-Pearson and colleagues found in their sample of 5th graders that, in addition to poor academic achievement, involvement in deviant behavior significantly increased the risk that a student would leave school early (1). Students were asked at age 14 about types of behaviors they were involved in during the past year. Deviant behaviors included self-reports of the use of alcohol and various other types of drugs; violent behavior, such as hitting someone or using a weapon to steal from someone; and nonviolent illegal behaviors, such as vandalism or theft. Regardless of how well they were performing in school, students involved in deviant behavior were much more likely to leave school before the end of the 10th grade than other students.

These findings were reinforced through other studies. Two studies found links between substance use and dropout. One was a study of neighborhood effects on high school graduation in the Chicago metropolitan area that found that adolescents who reported heavy use of marijuana (40 or more times during lifetime) were less likely to graduate from high school (2). In a second study, an analysis of data from the National Education Longitudinal Study (NELS), students who smoked cigarettes were more than seven times as likely to drop out as were students who did not smoke (3). A third study found a link between being in "serious trouble with the law" and dropping out of school for both males and females (4).

Indicators

- Has been involved in high-risk, antisocial behavior (drug and alcohol use, misbehavior at school, illegal behavior, trouble with police, violence or aggression)
- Has previously dropped out of school
- Number of arrests

Exemplary Programs That Address Risk Factor

Across Ages
Adolescent Transitions Program
Athletes Training and Learning to Avoid Steroids
Big Brothers Big Sisters
Brief Strategic Family Therapy
CASASTART
Cognitive Behavioral Therapy for Child Sexual Abuse
Coping Power
Family Matters
Functional Family Therapy
Good Behavior Game
Guiding Good Choices
Helping the Noncompliant Child
Keepin' it REAL
LifeSkills Training
Linking Interests of Families & Teachers
Midwestern Prevention Project (Project STAR)
Multidimensional Family Therapy
Multidimensional Treatment Foster Care
Multisystemic Therapy
Nurse-Family Partnership

Parenting Wisely
Preventive Treatment Program
Project Toward No Drug Abuse
Project Towards No Tobacco Use
Prolonged Exposure Therapy for PTSD
Safe Dates
School Transitional Environment Program (STEP)
Skills, Opportunities, and Recognition (SOAR)
Strengthening Families Program
Strengthening Families Program for Parents and Youth 10-14
Too Good for Violence
Trauma-Focused Cognitive Behavioral Therapy

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Social Attitudes, Values, and Behavior: Highly Socially Active Outside of School

The amount of time students spent with friends outside of school was found to be related to dropping out in two studies. One study (2) found that for students with learning disabilities or an emotional disturbance who were in the 12th grade, seeing friends four or five times a week was significantly related to dropping out of school before graduating. These students spent more time with friends outside of school than students with other types of disabilities, with 61 percent of emotionally disturbed and 55 percent of learning-disabled students seeing friends four or more times per week. The researchers argue that being strongly affiliated with individual friendships outside of school, rather than bonding with friends and activities tied to school, helps to disengage students from school.

A group of researchers (1) studying two cohorts of Canadian students found similar patterns among those who were highly socially active. Regardless of other characteristics, students who had a high level of involvement with friends outside of school were more likely to leave school before graduating than students who were less involved with friends.

Indicators

- Amount of time spent socializing with friends in activities outside of school hours

Exemplary Programs That Address Risk Factor

No programs found.

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School Performance: Low Achievement

Academic performance was found to be a major predictor of leaving school early in all 12 data sources, making it the only risk factor significantly related to dropout in all sources. Measures for this factor varied widely, more than for any other factor. Some studies used grades to explore the impact of achievement on dropout (4, 8, 14), others used achievement test scores (10, 18), some used both grades and test scores (6, 7, 12, 15), while a few used some combination of these and other academic factors (1, 2, 5). Some researchers used less specific indicators, such as "ever failing a class"(17) or teacher ratings of low academic competence (3).

Regardless of the measure used, low achievement was consistently found to be a major factor in dropout across decades and samples. The impact of low achievement was found to start early and to impact a student at all school levels, throughout his or her school career. Two longitudinal studies tracking factors influencing dropout from the 1st grade up to dropping out, found that low achievement in 1st grade was a major predictor of later dropout (1, 6, 7). In addition to 1st grade, other grade levels where at least two studies found low achievement significantly increased the chances that a student would drop out of school included: 8th grade (2, 8, 9, 10, 14), 9th grade (5, 8), and 10th grade (1, 4, 18).

A stark example of the impact that low achievement can have on dropout comes from the relationship found between mathematics achievement test scores and dropping out among the 8th-grade cohort in the National Education Longitudinal Study (NELS) (10). Twelve years after being surveyed, 33 percent of the students scoring in the lowest mathematics achievement quartile in 8th grade, 15 percent of those scoring in the two middle quartiles, and 4 percent of those scoring in the highest quartile had not received a high school diploma.

Other indications that academic performance is a major factor in leaving school early come from dropouts themselves. Poor academic performance was given as one of the major reasons that dropouts left school before graduation in two national surveys. "Got poor grades" was one of the two primary reasons dropouts gave for leaving school early in the national High School and Beyond survey (4). A little over a third (33 percent) of dropouts reported this as a primary reason for dropping out. In the National Education Longitudinal Study (NELS), 41 percent of dropouts reported leaving because they "were failing at school" and another third (31 percent) because they "couldn't keep up with schoolwork"(13).

There were differences found among subgroups of students on the impact of low achievement on dropout. In a comparison of factors that help to distinguish between dropouts, "stay-ins" (students who finish high school but do not go on to college), and "college-bound" students, Wehlage and Rutter (18) found that academic-related factors were more likely to distinguish between "college-bound" and "stay-ins" but not between "stay-ins" and dropouts, who had more similar academic experiences. School-related factors

(truancy, expectations, discipline problems) were the ones that best distinguished dropouts from "stay-ins."

A few studies found differences in the impact of low achievement on dropout between males and females. In a three-community study (3), teacher ratings of academic competence in grade 7 were only significantly related to dropout for boys. Low achievement for girls impacted dropout only in combination with other risk factors, particularly high aggression and being older than classmates. For example, 47 percent of girls who were highly aggressive and had really low achievement in the 7th grade dropped out prior to completing the 11th grade. Ensminger and Slusarcick (7) had similar findings on dropout and gender: grades in 1st grade had a major impact on dropping out for boys but not for girls. Grades in 1st grade were only a significant factor for non-poor girls in their sample.

Indicators

- Grade point average
- Subject grades
- Achievement test scores
- Reading level
- Whether failed any courses
- Overall academic success

Exemplary Programs That Address Risk Factor

Adolescent Sexuality & Pregnancy Prevention Program
AVID
Big Brothers Big Sisters
Check & Connect
Coca-Cola Valued Youth Program
Families & Schools Together
Helping the Noncompliant Child
LA's BEST
Multidimensional Family Therapy
Project GRAD
Quantum Opportunities
Schools & Families Educating Children
School Transitional Environment Program (STEP)
Skills, Opportunities, and Recognition (SOAR)
Success for All
Teen Outreach Program

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School Performance: Retention/Over-age for Grade

Nine analyses of seven data sources found that being held back and having to repeat a grade was a major predictor of dropping out before graduation. Being retained was found to be linked to dropout in at least two studies at every school level, from 1st grade on up through high school. One study found, for example, that middle school students who had been held back at some time in school had six times the odds of dropping out as students not held back (8). And, although correlated to academic achievement, retention had an impact on dropping out independent of academic performance and other school experiences and personal characteristics. Something about the experience of being retained and being older than grade level peers increases the likelihood of dropping out.

Several researchers (1), in their analysis of patterns in Baltimore schools, found that the strongest predictors of dropout were retention in middle school and 1st grade. Retention during other elementary grades also significantly impacted dropout, but not to the same degree as when it occurred in 1st grade or in middle school. Lloyd (7) found retention between 1st and 3rd grades significantly related to dropout for both boys and girls.

In the National Education Longitudinal Study (NELS) cohort, later retention was more likely to lead to dropout than earlier retention (6). Students who had been retained between kindergarten and 4th grade were about three times as likely as other students to later drop out and those being retained between 5th and 8th grade were about seven times as likely to drop out. The same pattern was found in an analysis of programs in four cities across the U.S., where those over-age two or more years in 9th grade were more likely to drop out two or three years later than those over-age two or more years in 6th grade (16 percent and 28 percent respectively) (3). Average dropout rates for the middle school sample were 6 percent and 15 percent for the high school sample.

Goldschmidt and Wang (4) found retention to be the strongest predictor for early dropouts, those that leave school between the 8th and 10th grades. Being retained doubled the probability that a student dropped out. Retention was also an important predictor for high school dropout (between 10th and 12th grades) but a less significant factor than behavior.

One aspect of retention that makes it so powerful is that its effects appear to be additive, where multiple retentions dramatically increase the chances that a student will leave school before graduating. This additive quality was found in the Baltimore analysis (1), in the four-city sample of middle and high schools (3), and in a dropout study in three diverse communities (2). Thirty-six percent of repeaters were retained two or more times in the Baltimore sample and 80 percent of these multiple repeaters left school without graduating (1). Ninety-four percent of students retained in both elementary and middle school dropped out (1).

The pattern in findings in the three-community study with increasing retentions before 7th grade illustrates the progressive nature of retention's impact (2). The dropout rate for those students who had not failed a grade was 7 percent; for those failing one grade, it was 27 percent; for two grade levels, it was 57 percent; and for three grade levels, it was 100 percent.

One study found differences in the impact of retention on dropout by race/ethnicity (8). Retention in the NELS sample had the most impact on White students, followed by Hispanic students but had no impact on African-American students, although African-Americans (and Hispanics) were more likely than Whites to have been held back.

Indicators

- Failed a grade
- Over-age for grade level

Exemplary Programs That Address Risk Factor

CASASTART
Preventive Treatment Program

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School Engagement: Poor Attendance

One of the primary student behaviors used as a gauge of school engagement is attendance, particularly when measured through absenteeism. Absenteeism was found in various studies to impact dropout over and above other personal characteristics, attitudes, and behaviors at all school levels. Evidence was found in at least two studies on the impact of absenteeism at the middle school level (2, 3) and high school level (2, 4, 5).

In looking at the impact of 1st grade measures on dropping out of high school in schools in Baltimore, Alexander and his colleagues (1) examined both lateness and absences in school behaviors. Absences in the 1st grade were found to be significantly related to leaving school before graduation but not lateness. Multivariate analysis indicated that with each additional day absent in a school year, regardless of other factors, a student's chance of dropping out increased by 5 percent. The average number of absences for dropouts was 16 compared to 10 for graduates, or a 30 percent increase in the chance of dropping out for these students over the chances for graduates (1).

Students surveyed who were participating in nationally funded dropout prevention programs reporting high absenteeism (20 or more absences during the school year) in both middle and high school were significantly more likely to drop out two to three years later (2). Absenteeism was one of the two best predictors for those dropping out in middle school. Fifteen percent of middle school students with high 6th-grade absenteeism dropped out as compared to the overall middle school dropout rate of 6 percent. The impact was even greater in high school, where it was one of the top four factors predicting dropout (2). Twenty-seven percent of those who had high absenteeism in their 9th-grade year had dropped out two or three years later (as compared to an overall high school dropout rate of 15 percent).

Other aspects of poor attendance analyzed by researchers in several national surveys included cutting classes (3), truancy (5) and tardiness (3), all of which were found to be linked to dropping out. Regardless of personal characteristics or school experiences, students in a national survey who cut classes once a

week or more were about six times as likely to drop out as students who never cut classes (3). For students who were tardy 10 or more times in the month before the survey, their chances of dropping out were almost seven times those of students who were never tardy (3). In an analysis of the dropouts surveyed in the High School and Beyond survey, Wehlage and Rutter (5) found that among academically similar peers, one of the primary factors setting dropouts apart from students who graduated was truancy.

Indicators

- Number of absences from school
- Number of days truant
- Number of days tardy
- Number of classes cut

Exemplary Programs That Address Risk Factor

Across Ages
Big Brothers Big Sisters
Career Academy
Check & Connect
LA's BEST
School Transitional Environment Program (STEP)

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School Engagement: Low Educational Expectations

Another aspect of school engagement encompasses expectations for school attainment. There was evidence in at least two studies to support the significance of the impact of these expectations at two school levels—middle and high school. These expectations were assessed through surveys or interviews with students. Students were asked about their current and future goals for education, whether they expected to graduate from high school and, if so, what their plans were for education beyond graduation.

Ensminger and Slusarcick (1) found in their analysis of longitudinal data on students from inner-city Chicago schools that adolescent males and females with low educational expectations were significantly more likely to drop out. Both males and females were more likely to have high expectations if their mothers also had high educational expectations for them. And, for males whose mothers had less than a high school education, regardless of other personal characteristics, attitudes, or behaviors, the student having high expectations made it much more likely that they would graduate.

Similar results were found in analyses of data from the National Education Longitudinal Study (NELS). Regardless of other behaviors, attitudes, or characteristics, students with low expectations for school attainment in the 8th grade were twice as likely as other students to drop out (4).

Not being sure of high school graduation in the 9th grade was found to be one of the top five predictors of dropping out among students surveyed who were participating in nationally funded dropout prevention programs. Twenty-five percent of 9th graders who expressed doubts about graduation dropped out two to three years later (compared to a 15 percent average sample rate) (2). Having doubts about graduation in the 6th grade, however, was not a significant predictor of dropping out before 8th or 9th grade.

Students surveyed for the High School and Beyond (HS&B) survey who reported high educational expectations in the 10th grade were significantly less likely to drop out than students with low expectations (5). One interesting thing to note about these dropouts, however, was that although they had lower expectations for school attainment than students who graduated, the average dropout did not expect as sophomores that they would leave high school without graduating. Instead, not only did the average dropout expect to finish high school, they also expected to take some junior college courses (5).

Indicators

- Certainty of graduating from high school
- Hopes or expectations of getting education beyond high school graduation
- Amount of formal schooling they expect to get in the future

Exemplary Programs That Address Risk Factor

LA's BEST
Quantum Opportunities
School Transitional Environment Program (STEP)

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School Engagement: Lack of Effort

Kaufman and his colleagues (2) looked at several measures of school effort collected on 8th-grade students in the National Education Longitudinal Study (NELS). Students surveyed who reported doing no homework per week were eight times more likely to drop out between the 8th and 10th grades as students doing at least some homework. Students whose teachers reported that they rarely completed homework were six times as likely to drop out.

Another survey of students participating in nationally funded dropout prevention programs had similar findings for homework (1). Spending less than one hour per week on homework in high school increased the likelihood that a student dropped out. Twenty-one percent of students reporting doing little homework in high school dropped out, compared to 15 percent of the overall high school sample. There was essentially no relationship found between hours spent on homework in middle school and dropping out.

Several other measures were analyzed from the NELS related to level of school effort. Students who reported that they were usually unprepared for class were more than eight times as likely to drop out as those who reported that they were always prepared for class (2). Even coming to class prepared only infrequently significantly reduced chances of dropping out relative to those who never came to class unprepared.

Teachers on the NELS also assessed whether students in the 8th grade were performing below their ability in their class (2). Students judged to be performing below ability were more than three times as likely to drop out of school as other students.

Indicators

- Number of hours spent on homework
- Whether performing up to their ability
- Frequency of going to class unprepared

Exemplary Programs That Address Risk Factor

Coca-Cola Valued Youth Program
Multidimensional Family Therapy
Skills, Opportunities, and Recognition (SOAR)
The Incredible Years

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School Engagement: Low Commitment to School

One group of attitudes and behaviors that can serve as a warning that a student is detaching from school are those that reflect commitment to school. General dislike of school is one of the primary indicators of low commitment to school that has been linked to school dropout. “Didn’t like school” was one of the two primary reasons dropouts gave for leaving school early in the national High School and Beyond (HS&B) survey in 1980, with a third (33 percent) of dropouts reporting this as a primary reason (2). It was also the top reason given for leaving by dropouts in the 1988 National Education Longitudinal Study

(NELS), where half (51 percent) of the students surveyed reported that they dropped out because they "didn't like school"(5).

Reasons given for leaving school prior to graduation other than not liking school offer some insight into other issues these dropouts had with school that might be related to their low commitment to school. In responses of dropouts to the HS&B, two school-related and two nonschool-related reasons rounded out the top five (2). Dropouts reported getting poor grades (33 percent) and not getting along with their teachers (15 percent) as main reasons. Responsibilities and interests outside of school were also reported often as primary reasons for dropping out, including taking a job (19 percent) and getting married (18 percent).

All of the top reasons for leaving given by the NELS dropouts were related to school. These dropouts reported leaving because they were failing (44 percent), couldn't get along with teachers (34 percent), had trouble keeping up with schoolwork (31 percent), and/or felt like they didn't belong at school (25 percent). Unfortunately, it is not possible to discern in the HS&B or NELS analyses the order in which these attitudes developed. For example, did low commitment come first and cause grades to drop, or, as a result of failing grades, did the student begin detaching from school, or did both occur because of some other factor or combination of factors?

For some researchers, commitment to school involves more than just a general dislike of school. Instead, commitment to school or education includes a set of related student attitudes and behaviors in addition to general feelings about school. Elliott and Voss (3) developed a composite they called "school normlessness," which included self-reports on how well students liked school, the amount of homework they usually completed, how often they skipped school or acted out, and whether they gave teachers a lot of trouble. They found that school normlessness in the 9th grade was the most important predictor of dropping out for girls and the third most important predictor for boys.

Janosz and his colleagues (4) developed a factor for their analysis that they called "commitment to schooling." It included items relating to a student's general attitude toward school, a self-report of academic competence, the importance placed on making good grades, and personal long-term educational aspirations. In their analysis of two cohorts of White Canadian students, they found that this composite of commitment to schooling was one of the best predictors of dropout in both samples, behind grade retention and school grades (4).

A third composite measure, the most complex across studies reviewed, was used in a longitudinal study of dropout in Baltimore schools and labeled "engagement attitudes" (1). The measure encompassed a number of items related to commitment that changed over the years of the study as the students matured. Items addressed low educational expectations, self-assessment of school success, motivation for doing schoolwork and getting good grades, and general like or dislike of the school and teachers. Although assessed from 1st grade up to 9th grade, only at 9th grade were these attitudes found to significantly impact dropout. Grades and retention were the important early factors, and engagement attitudes as well as behaviors (sent to office for misbehavior, cutting class, and teacher conduct ratings) were the important later factors in predicting dropout in their analysis (1).

Indicators

- Liking or disliking school
- Level of expectations for school success
- Amount of importance placed on school success

Exemplary Programs That Address Risk Factor
Across Ages
Coca-Cola Valued Youth Program
LA's BEST
School Transitional Environment Program (STEP)

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School Engagement: No Extracurricular Participation
Elliott and Voss (1) found that increases in school social isolation in high school significantly increased the likelihood that girls would drop out of school. Isolation was indicated by low or no involvement in school clubs or other school activities, and self-reports of being far outside of the "center of things" at their high school. They did not find the same pattern for boys.

In the National Education Longitudinal Study (NELS) (2), researchers found that students who reported participating in extracurricular activities in the 8th grade had a dropout rate of 6 percent as compared to 18 percent for those who reported not participating in these activities.

In a study of students with disabilities (3), researchers found that students who belonged to school or community groups in grades nine through 12 were significantly less likely to drop out of school than their peers who were not involved in these types of groups. In addition, the impact of these affiliations in reducing the chances of dropping out also *increased* between grades nine and 12. Relatively large percentages of the students with disabilities most vulnerable to dropout—those with learning disabilities or emotional disturbances—were members of school or community groups (46 percent and 37 percent, respectively). Students in the disability categories of deaf or visually impaired, the two categories with the lowest dropout rates, were the most likely to belong to these types of groups, with 56 percent and 50 percent involved, respectively. The researchers argue that being strongly affiliated with groups tied to school, rather than bonding with friends and activities not related to school, helps to keep students engaged in school.

Indicators
- Amount of participation in extracurricular activities (e.g., sports, clubs, chorus, or school newspaper)
- Memberships in school or school-based community groups

Exemplary Programs That Address Risk Factor
Across Ages
Adolescent Sexuality & Pregnancy Prevention Program
CASASTART
Coca-Cola Valued Youth Program
Families and Schools Together
LA's BEST
Multidimensional Family Therapy
Quantum Opportunities

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School Behavior: Misbehavior
School misbehavior was found to be a major predictor of dropout in five of the 12 data sources. As for many of the other factors, there was a range of measures used to capture student misbehavior and discipline problems at school. Problem behaviors in one longitudinal study were measured by teacher's ratings of each child on psychopathology (6) and in another by a composite of "engagement behaviors," such as cutting classes and disciplinary problems in school (1). Other measures used included reports of number of times sent to the office (7) or combinations of behaviors, including behaviors like cutting classes (3), getting suspended (2, 3, 9), and getting into trouble with police (2, 3, 9). While most studies (2, 3, 4, 7, 8, 9) relied on student self-reports of behavior, others used reports by teachers (1, 6).

Problem behaviors in one longitudinal study, based on a teacher's ratings of a student's behavior, found that problem behaviors at 1st grade and at age 16 were significantly related to high school status by age 19 (6). In another study, disciplinary problems during 6th grade increased a student's likelihood of dropping out two to three years later and problems during the 9th grade had an even larger impact (4). Nine percent of those with disciplinary problems in the 6th grade had dropped out two to three years later, and 23 percent of those with disciplinary problems in 9th grade had dropped out two to three years later (compared to sample averages of 6 percent and 15 percent respectively) (4).

Another study of inner-city Chicago schools, however, had findings slightly different from those described above. Researchers in this study found that behavior problems at school in the 9th grade (sent to office for misbehavior, cutting class, and teacher conduct ratings) but not in the 1st or 6th grade were significantly linked to dropout (1). In their analysis, early grades and retention through elementary and middle school were keys, while in high school, behaviors and attitudes become more influential (1).

Analyses of two national surveys also identified school misbehavior as a significant risk factor for dropout. Links were found between behavior problems in school and dropping out in the High School and

Beyond survey data (2,3,9). In one analysis, the two major predictors of dropout were having behavioral problems (cutting classes, been suspended, trouble with police) and low grades, with behavior having a greater impact on dropping out (3). Students with the most behavior problems tended to be males with low verbal ability who reported feeling that they had little control over their lives (3).

In the National Education Longitudinal Study (NELS) data, regardless of other experiences and personal characteristics, 8th-grade misbehavior was the strongest predictor for late dropouts (between 10th and 12th grades) and the second strongest predictor for early dropouts (between 8th and 10th grades) (5). Eighth-grade students who had been sent to the office for misbehaving were more likely to drop out than students who had never been sent to the office, and the chances of dropping out dramatically increased with the number of times they got into trouble (7). Students who had been sent to the office once or twice in their 8th-grade year were three and a half times as likely to drop out between the 8th and 10th grades as those who never were sent to the office. Those sent to the office more than twice during that year were six and a half times as likely to drop out between the 8th and 10th grades as those never sent to the office (7).

It was also clear in the NELS that not only was individual misbehavior a major risk factor for dropout, but the percentages of the student population misbehaving in both middle and high schools was a significant factor that increased the chances of any student at the school to drop out (5).

Barro and Kolstad (2) found the relationship between dropout and antisocial behavior to be especially strong and consistent across gender and race/ethnicity. Another study, however, found a significant relationship between misbehavior and dropout for White and Black students but not for Hispanic students (8). In a third study, males were more than twice as likely as females to report dropping out because of behavior problems (3). Twenty-one percent of male dropouts said a major reason they left school was because they couldn't get along with teachers in the 10th grade and 13 percent because of being expelled or suspended (9 percent and 5 percent, respectively, for females) (3).

While exploring patterns in the NELS data, Wehlage and Rutter (9) found that dropouts differed from their academically similar peers because of problem behaviors like discipline problems, truancy, and lateness. These differences were the characteristics that best distinguished dropouts from non-college-bound graduates (9).

Indicators

- Number of times sent to the office for misbehavior
- Number of warnings sent home about behavior
- Number of suspensions/expulsions

Exemplary Programs That Address Risk Factor

Adolescent Transitions Program
Brief Strategic Family Therapy
Children of Divorce Intervention Program
Coping Power
Families & Schools Together
Fast Track
Good Behavior Game
Linking Interests of Families & Teachers
Multidimensional Family Therapy
Preventive Treatment Program
Project GRAD

Promoting Alternative Thinking Strategies (PATHS)
Responding in Peaceful and Positive Ways
School Transitional Environment Program (STEP)
Skills, Opportunities, and Recognition (SOAR)
Teen Outreach Program
The Incredible Years
Too Good for Violence

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School Behavior: Early Aggression

Two studies in this review found that early aggression was a major factor in predicting dropout. In both studies, it was measured by teacher or principal ratings and was collected in either 1st or 7th grade. Findings from both studies indicate a direct and significant link between early aggression and dropout for males, but only one study found a link for females.

Several researchers (1), in analyzing dropout across three communities, found that students who were rated as aggressive in the 7th grade were much more likely to drop out of school before completing 11th grade. This was the case for both boys and girls. The groups of students *most* likely to drop out in their sample were those who had very high aggression scores, paired with low achievement and being older than their peers. Eighty-two percent of boys with these traits and experiences and 47 percent of girls left school before receiving a diploma. Having a higher socioeconomic status (SES) and having average or better academic performance lessened the impact of being aggressive on the chances of dropping out for boys. Eighteen percent of boys with above-average aggression who also were above average in SES and average in academic performance, dropped out before completing the 11th grade. The researchers (1) also

found that all six of the boys claiming to be fathers were rated as highly aggressive and all eventually dropped out.

Ensminger and Slusarcick (2) found in their analysis of longitudinal data in inner-city Chicago schools that males who were rated as aggressive by their 1st grade teachers were significantly more likely to drop out. As in the other analysis, SES was found to impact the relationship between aggression and dropping out, with non-poor adolescent males who were rated as aggressive in 1st grade being more likely to drop out than other non-poor males. The same relationship was not found, however for poor males, who were equally likely to drop out whether they were rated as aggressive or not. Although adolescents with high educational expectations were found to be significantly more likely to graduate in this analysis, expectations did not have the same effect on aggressive males. Unlike other males, males who were rated as aggressive in the 1st grade were all equally likely to drop out, regardless of their expectations.

Unlike the other study, Ensminger and Slusarcick (2) did not find a direct link between early aggressiveness and leaving school or graduation for females. Aggression was instead indirectly related to graduation for girls through another factor that was significantly related to graduating—a student's perception of teacher satisfaction with their performance. Particularly for non-poor girls, girls who were rated as aggressive in the 1st grade were much less likely to report teacher satisfaction with their performance, which in turn increased the likelihood that they would not graduate.

Indicators

- Level of aggression exhibited in school
- Level of aggression relative to peers

Exemplary Programs That Address Risk Factor

Families & Schools Together
Fast Track
Good Behavior Game
Helping the Noncompliant Child
Linking Interests of Families & Teachers
Promoting Alternative Thinking Strategies (PATHS)
Responding in Peaceful and Positive Ways
Schools & Families Educating Children
Strengthening Families Program

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Family Background Characteristics: Low Socioeconomic Status

A student's family socioeconomic status (SES) is one of the family background factors most consistently found to impact a variety of student educational outcomes. Across a variety of measures, a family's SES was found to be a major risk factor for dropping out of school in 10 of the 12 data sources reviewed. Low family SES was found to be a significant contributor to dropping out in at least two studies in the following grades: 1st grade (1, 2, 7), 8th grade (4, 8, 9, 11, 13, 14), and 10th grade (3, 6, 15), and was significant for both early (between 8th and 10th grades) and later (between 10th and 12th grades) dropouts

(8). SES was measured in a variety of ways across studies: by family income (3, 7), eligibility for free lunch (4), parents' occupational level (3, 5, 12), mother's education level (12), or some combination of factors (1, 9, 10, 15).

Researchers in one analysis of the National Education Longitudinal Study (NELS) found that 82 percent of all dropouts who left school between 8th and 10th grades were from families with SES levels below the mean (11). Reasons reported for dropping out in the NELS varied by SES. Lower SES dropouts were significantly more likely to report family reasons, such as becoming a parent or to care for a family member, as their primary reasons for leaving than higher SES dropouts (11).

SES level is often found to be a more powerful influence on dropout than other factors. In analyzing predictors of early dropout (leaving before the 10th grade), Battin-Pearson and colleagues (4) found that coming from a family in poverty significantly increased the likelihood that a student would drop out of school, even if he or she made good grades.

The interaction between family SES and dropout is clearly illustrated in the pattern of dropouts in a longitudinal study of students in Baltimore. In this sample, 60 percent of youth from families in the lowest SES level dropped out, 30 percent of those in the middle level, and 15 percent of those in the highest SES level (2).

Researchers in a study of dropout in three communities found that family SES in the 7th grade was a significant factor for both males and females, but it was more closely related to dropout for females than males (5). The dropout rate for females in the two groups with the highest average family SES was 2 percent, while the rate for females in the two groups with the lowest average family SES was 30 percent.

Ensminger and Slurasick (7), in a sample of inner-city Chicago students, found that poverty impacted dropout through other variables. Poverty changed the relationship between early aggressiveness and dropping out for males. For non-poor males, aggression was a major predictor of dropping out but not for poor males. Poverty interacted with grades for girls. Non-poor girls who had low grades were more likely to drop out, but grades did not impact the chances that poor girls would drop out.

Evidence from the NELS also indicated that the school's average family SES level impacts dropout rates for students, over and above their own family SES. Dropout rates for both middle and high schools increased as the percentages of students from low-income families increased (8, 13).

Indicators

- Family income
- Receipt of federal assistance
- Eligibility for the federal free/reduced price lunch program
- Rating of parents' occupations

Exemplary Programs That Address Risk Factor

Nurse-Family Partnership

Bibliography

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Family Background Characteristics: High Family Mobility

High family mobility that results in a number of residential moves and changes in schools can cause major disruptions in the lives of children and youth. A study of students in inner-city Chicago schools found a link between moves and the chances that a female student would drop out. Researchers (1) found that a family move between 1st grade and adolescence significantly increased a female's chances of dropping out but not a male's (1). Females whose families had moved were three times as likely to drop out as female students who had not moved.

Changing schools was found in several studies to have a significant impact on the likelihood that a student would leave school before graduation. Gleason and Dynarski (2) found that attending five or more different schools before the 6th grade was linked to dropping out two to three years later. Changing schools had a less significant impact on dropout after 9th grade.

In the National Education Longitudinal Study (NELS) data, regardless of other family and personal characteristics like socioeconomic status (SES), changing schools even one time significantly increased the likelihood that a student would leave school before graduating (3). In addition, the chances of dropping out increased steadily with each successive school change. The likelihood that a student who had changed schools once before 8th grade would drop out was almost twice that of a student who had not moved. Changing schools three times increased the chance of dropping out to about three times that of a student who had not moved. Changing schools five or more times increased the chances of dropping out to eight times that of a student who had not moved (3).

Rumberger (4) also found in his analysis of the NELS data that changing schools had a significant impact on dropping out. Results of a multivariate analysis that controlled for the effects of demographic and family background factors indicated that every time a student changed schools, his or her chances of dropping out before graduation increased by 21 percent.

Teachman and his colleagues, in an analysis of the NELS data focused on exploring various measures of social capital on dropping out, found changing schools had a major impact on dropout (5). They were unable in their analysis, however, to specify exactly why changing schools had such an impact, but were able to rule out changes in the involvement of the parents with the school as one of the factors as well as any changes in the interactions between parents and children about school activities and plans.

Indicators

- Number of family moves
- Number of schools attended

Exemplary Programs That Address Risk Factor

No programs found with evidence that they directly addressed this risk factor.

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(1) Ensminger, M. E., Lamkin, R. P., & Jacobson, N. (1996). School leaving: A longitudinal perspective including neighborhood effects. *Child Development, 67*, 2400-2416.

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Family Background Characteristics: Low Education Level of Parents

Parental education level is one of the most consistent family background factors examined in relation to student educational outcomes. Although related to a family's socioeconomic status (SES), it was found to have an effect on dropout independent of family SES in four of the reviewed data sources.

Parental education was significantly related to dropping out in the NELS data of 8th graders, regardless of family income or family structure (4, 6). The higher the level of education of a students' parents, the less likely they were to drop out either between the 8th and 10th grades (4, 6) or between the 10th and 12th grades (4).

Level of education of both parents was also found to be significantly related to dropping out in the High School and Beyond (HS&B) survey of 10th graders, where an additional four years of schooling of a parent increased the chances of a student's graduation by 15 percent (1). Six additional years of schooling for either parent increased the chances of graduating by 25 percent (1).

In their analysis of two cohorts of White Canadian students, Janosz and his colleagues (5) found that the average educational level of a student's parents was one of the top five predictors of a student not completing the basic requirements for a high school diploma by the age of 22 for both cohorts. This factor and the socioeconomic status of the family were the two family characteristics among the top five dropout predictors.

Ensminger and her colleagues included mother's education in several analyses of longitudinal data from students in inner-city Chicago schools (2, 3). One analysis focused on the impact of neighborhood factors on early school leaving (2). They found that mother's education had a significant impact on dropout for both males and females. Students whose mothers had lower levels of education were more likely to drop out. In another analysis of the same students that focused more on student performance and family characteristics, researchers found less of a direct impact of mother's education on dropout (3). Mother's education impacted dropout for males through its influence on early grades and adolescent expectations. Males whose mothers had higher levels of education were more likely to make good grades in 1st grade and more likely to have higher expectations for education, both of which increased the likelihood that they would graduate. The researchers found no effect in the second analysis of mother's education on dropout for girls.

Indicators

- Amount of formal schooling completed by parents

Exemplary Programs That Address Risk Factor

Families & Schools Together

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Family Background Characteristics: Large Number of Siblings

The number of siblings a student has was linked to dropping out in two studies. One analysis of the High School and Beyond (HS&B) survey of 10th graders found that dropping out was linked to the number of siblings in a student's family and that risk increased with each additional sibling (1). The number of siblings had an effect on dropout independent of other factors, including socioeconomic status, family structure, religious affiliation, and religiosity (1).

The other study by Lloyd (2), based on 3rd grade data, found that the number of siblings a student had increased the likelihood that they would later drop out. The number of siblings was a significant factor for both girls and boys. Number of siblings impacted dropout, regardless of a student's academic performance during that year, prior retention, their family structure, or family socioeconomic status (2).

Indicators

- Number of brothers and sisters

Exemplary Programs That Address Risk Factor

Nurse-Family Partnership

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Family Background Characteristics: Not Living With Both Natural Parents

Along with socioeconomic status, a number of studies have linked dropout and other poor educational outcomes to family structure. Students living in single- or stepparent families have been found to have poorer educational outcomes (6). Family structure was found to impact dropout in three of the data

sources reviewed, including two national surveys (1, 2, 3, 4, 6, 7) and one longitudinal sample of 6th graders (5).

In an analysis of a sample of 6th graders, Lloyd (5) collected data from school records on the marital status of students' parents while they were in the 3rd grade. He used two marital status categories—(1) alive and married or (2) separated, divorced, deceased, or remarried. He found that students living with both parents were significantly more likely to graduate than those living in a household without both parents.

In the National Education Longitudinal Study (NELS) data, regardless of other family and personal characteristics like socioeconomic status (SES), living with a single parent rather than with both parents significantly increased the likelihood that a student would leave school before graduating (4). Students who lived in a single-parent family in the 8th grade were more than two and a half times as likely to drop out of school as a student who lived with both parents.

Another analysis of the NELS data found that living in a stepparent family or a divorced-mother family in the 8th grade were significantly related to dropping out of school between the 8th and 10th grades (7). Living with a never-married mother, a divorced father, or other type of guardian was not significantly related to dropping out. Researchers found that the relationship for stepparent and divorced-mother families was partially due to the increase in chances of moving schools with these family structures, but that did not explain all of the relationship between family structure and dropping out. The impact of family structure on dropout was not found to be related to differences in parent-school interactions or parent-child interactions about school in this analysis (7).

In contrast to the above analysis of NELS student dropouts, Rumberger's (6) analysis of NELS students found that only living in a stepparent family was directly linked to dropping out. Living in a single-parent family was not significantly linked to dropping out after parent educational support measures were added into the analysis. The difference between his findings and the other NELS study described above (7) may be due to the fact that Rumberger combined all of the single-parent families together while the prior analysis did not. In addition, the prior study found that only students in single-mother families were more likely to drop out but not those in other single-parent family types. Rumberger also notes that his analysis suggests that the effect of single-parent families on dropout may be indirect, in that students in these families may be more like to be retained or change schools and that these are the factors that increase the likelihood that they will leave school before graduation (6).

Rumberger's (6) analysis also uncovered some important differences between race/ethnic groups on the impact of living in stepfamilies for student outcomes. For White students, living in a stepfamily significantly increased their odds of dropping out, while for Black students, it significantly decreased their odds of dropping out. Living in a stepfamily had no significant impact on the odds that a Hispanic student would drop out.

Two analyses of the High School and Beyond (HS&B) survey of 10th graders also found a link between family structure and leaving school early (1, 2). In the analysis by Barro and Kolstad (1), living in a household without both parents increased the likelihood that a student would drop out. The risk was highest for those living in households without either parent, somewhat lower with only their fathers, and lowest for those living with only their mothers.

Indicators

- Parents' marital status
- Family members living in household with student

- Type of family/household where student lives

Exemplary Programs That Address Risk Factor
Big Brothers Big Sisters
Children of Divorce Intervention Program
Parenting Wisely
Trauma-Focused Cognitive Behavioral Therapy

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Family Background Characteristics: Family Disruption
Family disruption during the 1st grade or at some time during secondary school was found in two studies to be linked to dropout. Alexander and his colleagues (1, 2) in examining factors that impacted dropout in a sample of students in Baltimore, found that the number of family changes during the 1st grade had a significant impact on dropping out. Regardless of later school experiences and performance, and family socioeconomic status, the more family changes that a student experienced during their 1st grade year, the more likely they were to later drop out. Family changes included divorce, marriage, a family move, illness or death, or other adults coming into or leaving the household.

A study of two cohorts of Canadian students found a connection between family change and disruption in middle or high school and dropping out (3). Students who experienced a recent family disruption, frequent moves, or had a relatively large family were more likely to leave school than students who had not had these experiences.

Indicators
- Number of household changes (divorce, death, remarriage, foster care)
- Changes in household makeup

Exemplary Programs That Address Risk Factor
Big Brothers Big Sisters
Children of Divorce Intervention Program
Parenting Wisely
Trauma-Focused Cognitive Behavioral Therapy

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Family Engagement/Commitment to Education: Low Educational Expectations
As was found for student's expectations, parental expectations for education attainment for their children were important predictors of a student leaving school before graduation. Parents' and child's expectations were also found to be significantly related—when parents had high expectations for education, so did their children (1).

Ensminger & Slusarcick (1) found in their analysis of longitudinal data in inner-city Chicago schools that mothers' educational expectations for their daughters when they were adolescents were significantly related to graduation status. Mothers' expectations for schooling when their daughters were in the 1st grade, however, were not directly related to graduation status. They found no significant direct relationship between mothers' expectations for their sons and graduation status. Mothers' expectations had an indirect effect on graduating from high school for males through their impact on adolescents' hopes and expectations. Teenage males whose mothers had high educational expectations for them were more likely to have higher hopes for and expectations for future education for themselves, and males with these attitudes were significantly more likely to graduate.

Two studies using the data from the National Education Longitudinal Study (NELS) of 1988 found that, regardless of other family and personal characteristics like socioeconomic status (SES), low parental expectations for their child's education significantly increased the likelihood that the child would leave school before graduating (2, 3). Eighth-grade students whose parents did not expect them to graduate from high school were almost 14 times as likely to later drop out of school as students whose parents expected them to receive at least some college education. Even students whose parents expected them to receive at most some college education were significantly more likely to drop out than students whose parents expected them to get a four-year degree—they were 40 percent more likely to drop out (2). One analysis of NELS data also found that the impact of expectations on dropout varied among race/ethnic groups (3). Low parental expectations for education were significantly linked to dropout particularly for Blacks and also for Whites, but not for Hispanics.

Indicators
- Parent expectations about high school graduation for child
- Amount of formal schooling parents expect child to get in the future

Exemplary Programs That Address Risk Factor
No programs found with evidence that it directly addressed this risk factor.

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(1) Ensminger, M. E., & Slusarcick, A. L. (1992, April). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education 65*, 95-113.
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Family Engagement/Commitment to Education: Sibling Has Dropped Out

Not only can having close friends that drop out make it more likely that a student will drop out, but having a brother or sister who has dropped out can have a similar effect. Evidence was found in three of the data sources reviewed that having a sibling who dropped out of school increased the chances that a student would also drop out.

In the National Education Longitudinal Study (NELS) data, regardless of other family and personal characteristics like socioeconomic status (SES), having an older sibling who dropped out significantly increased the likelihood that a student would leave school before graduating, and the risk increased as the number of sibling dropouts increased (3). Eighth-grade students with one older sibling who had dropped out were more than one and a half times as likely to later drop out of school as a student with no sibling dropouts. Students with two or more dropout siblings were twice as likely to later drop out as students without dropout siblings. In another analysis of these data, researchers exploring the impact of a variety of family structures and social capital factors, like the quality of parent-school and parent-child interactions, found that 8th graders with a sibling who dropped out were almost three times as likely as other students without sibling dropouts to drop out early (4).

Elliott and Voss (1) examined the joint effect on students of having siblings as well as one or more parents that dropped out. For males, this exposure to dropout in the home was the best predictor of dropout and for females it was the second-best predictor. The researchers found that this exposure to dropout at home, based on the factors they analyzed, explained the connection between socioeconomic status and dropout in their sample. It appeared to them that lower-class youth were more likely to have a family member who had dropped out, which increased their own chances of dropping out.
The other study finding a significant link between having a sibling who dropped out and a student dropping out was from surveys of students participating in nationally funded dropout prevention programs (2). Ninth-grade students who had a sibling who had dropped out of school were more likely to dropout two to three years later than those who did not have a sibling who dropped out. Twenty-one percent of 9th-grade students who had a sibling drop out also dropped out, compared to 15 percent of the overall high school sample. There was only a small relationship between having a sibling who dropped out and dropping out for middle school students.

Indicators

- School status of brothers and sisters

Exemplary Programs That Address Risk Factor
No programs found with evidence that it directly addressed this risk factor.

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Family Engagement/Commitment to Education: Low Contact With School

Another aspect of family engagement is the amount of contact parents or guardians have with the school about their child's academic progress or problems, academic program, or behavior problems. Two studies found a significant relationship between this type of family engagement and leaving school prior to graduation (1, 2).

Rumberger (2) in his analysis of data from 8-grade students surveyed in the National Education Longitudinal Study (NELS), explored whether parent contact with their child's school or teacher about problems or attending events and having meetings with teachers or counselors would impact the likelihood that their child would drop out of school before graduating. He found that students whose parents had not contacted the school or teacher about their child's performance or behavior during their 8th-grade year, regardless of other family and personal characteristics like socioeconomic status (SES), were significantly more likely to drop out by the 10th grade as students whose parents had contacted the school or teachers about these issues. When he analyzed differences across race/ethnic groups, however, he found that these types of contacts only impacted dropout for White students and not Black or Hispanic students.

Jimerson and colleagues (1) followed an at-risk sample of youth from birth up to age 19 on a number of family and individual student achievement and problem behavior factors to assess the impact of early home environment, caregiving, and parent involvement at school on school dropout. The level of parent involvement was determined from teacher reports in 1st and 6s about how frequently parents had contacted the school or attended conferences. In analyzing various factors across students' school careers, the researchers found that parent involvement in the 6th grade was the most important predictor of dropping out by age 19.

Indicators

- Number of contacts between parents and school or teacher
- Number of parent-teacher conferences attended
- Teacher rating of level of parental involvement

Exemplary Programs That Address Risk Factor

AVID
Families & Schools Together
Fast Track

Project GRAD
Schools & Families Educating Children
Success for All
The Incredible Years

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Family Engagement/Commitment to Education: Lack of Conversations About School

Studies of two data sources explored the impact of parent-child conversations about school on dropout. Analyses explored whether parents talking with their children about what they studied at school, or discussions about courses or program selection, future educational planning, or school activities or events had any effect on whether or not a student graduated from high school.

Two studies were carried out on students surveyed in the National Education Longitudinal Study (NELS) (2, 3). Students were asked questions on the NELS questionnaire about the frequency of discussions with parents about school activities and educational plans (2). Eighth-grade students who had never had these types of discussions with their parents were significantly more likely to drop out than students who regularly had these discussions. Eighth-grade students whose parents never talked to them about high school plans were almost six times as likely to drop out as students who regularly had conversations with their parents about high school plans. But even students who only rarely had conversations about school activities or plans with their parents were only slightly more likely to drop out than students who had more frequent conversations with their parents about school, and the difference between them was not statistically significant.

From the NELS 8th-grade questionnaire, Teachman and his colleagues (3) developed a composite measure of parent-child interaction about school, based on both child and parent reports of how often during the school year they discussed school activities, courses, events, or what the child was studying at school. This measure was found to be significantly related to dropping out, regardless of parent education, income, or family structure.

The other study finding a significant link between parent-child school conversations and dropping out was from surveys of students participating in nationally funded dropout prevention programs (1). Sixth-grade students whose parents did not talk to them about things they were studying at school were more likely to drop out two to three years later than those who did discuss with parents what they were studying. Eleven percent of 6th-grade students who didn't talk with their parents about school studies dropped out, compared to 6 percent of the overall middle school sample. There was also a relationship found between discussions of studies and dropping out for high school students. Twenty percent of 9th-grade students who didn't talk with their parents about studies at school dropped out, compared to 15 percent of the overall high school sample.

Indicators

- Frequency of conversations between parents and child about what studying in school
- Frequency of conversations between parents and child about high-school planning

- Frequency of conversations between parents and child about postsecondary plans

Exemplary Programs That Address Risk Factor
Parenting Wisely

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Appendix E

The Matrix of Prevention Programs

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	Academic Tutoring and Social SkillsTraining												Effective
	Accelerating Language Development Through Picture Book Reading						Effective						
	Across Ages				Model		Effective	Favorable					Exemplary
	Adolescent Alcohol Prevention Trial (AAPT)				Promising		Effective		Effective				
	Adolescent Portable Therapy												Promising
	Adolescent Transitions Program			Effective			Effective		Effective		Exemplary 2		Exemplary
	Aggression Replacement Training					Promising				Effective			Promising
	Aggressors, Victims & Bystanders: Thinking & Acting to Prevent Violence					Promising							
	Al's Pals: Kids Making Healthy Choices				Model	Promising		Favorable					Exemplary
	Albuquerque Victim-Offender Mediation Program												Promising
	Alcohol Misuse Prevention						Effective						Effective
	All Stars				Model	Promising	Effective						Effective

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	American Indian (Zuni) Life Skills				Effective								Effective
	Anchorage Youth Court												Effective
	Anger Coping Program			Effective				Favorable		Effective			Effective
	Asian Youth Alliance				Promising								
	Assertiveness Training Program									Effective			
	Athletes Training and Learning to Avoid Steroids (ATLAS)		Promising		Model	Exemplary	Effective	Favorable	Effective				Exemplary
	Baby Safe (Substance Abuse Free Environment) Hawaii				Promising								
	Baltimore Choice Program												Promising
	BASIS									Effective			
	Baton Rouge Partnership for the Prevention of Juvenile Gun Violence												Effective
	Be A Star				Promising								Promising
	Behavioral Monitoring and Reinforcement Program (Formerly Preventive Intervention - Bry)		Promising		Promising			Promising		Effective		Promising 2	Effective

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	Behaviorally-Based Prevention Program						Effective						
	Bereiter-Engleman/DISTAR Model						Effective						
	Bethesda Day Treatment										Promising		Promising
	Bethlehem Police Family Group Conferencing Project												Exemplary
	Bicultural Competence Skills Approach						Effective						Exemplary
	Big Brothers Big Sisters of America	Effective	Model	Effective			Effective			Effective			Exemplary
	Bilingual/Bicultural Counseling and Support Services				Promising								
	Book Lending Library						Effective						
	Border Binge Drinking Reduction Program				Model								
	Boston Gun Project	Effective											
	Boys and Girls Club	Effective								Effective			Effective
	Boys and Girls Club Educational Enhancement												Effective

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	Boys and Girls Club Gang Prevention Through Targeted Outreach												Promising
	Brainpower Program			Effective	Promising								
	Brief Alchohol Screening and Intervention for College Students				Model								Exemplary
	Brief Strategic Family Therapy (BSFT)	Effective	Promising		Model		Effective				Exemplary 2		Exemplary
	Brookline Early Education Project (BEEP)						Effective						
	Buddy System						Effective						
	Bullying Prevention Program (BPP)	Effective	Model	Effective	Model		Effective	Exemplary		Effective		Promising 2	Effective
	California Smoker's Helpline				Effective								
	Canberra Reintegrative Shaming Experiments												Exemplary
	Capital and Violent Offender Program (Formerly Capital Offenders Program)	Effective											Promising
	CAPSLE							Favorable					

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	Career Academy												Exemplary
	Career Beginnings												Effective
	Carolina Abecedarian Project						Effective	Favorable					
	CASASTART		Promising		Model	Exemplary						Promising 1	Exemplary
	CEDEN Family Resource Center										Model		
	Challenging College Alcohol Abuse (CCAA)				Model								
	Chicago Alternative Policing Strategy												Effective
	Chicago Child-Parent Center and Expansion Program (CPC)							Favorable					Effective
	Child Development and Community Policing Model												
	Child Development Project			Effective	Model	Promising	Effective	Favorable		Effective			Effective
	Children in the Middle				Model								Exemplary
	Children of Divorce Intervention Program			Effective	Effective		Effective						Effective
	Children of Divorce Parenting Program			Effective									

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	Chronic Truancy Initiative												Promising
	Class Action (Part of Project Northland)				Model								
	Classroom Organizational Strategies						Effective						
	Clayton County Restitution Program												Exemplary
	Club Hero				Promising								Promising
	Coca-Cola Valued Youth Program							Favorable					
	Cognitive-Behavioral Intervention for Trauma in Schools (CBITS)				Promising								Promising
	Cognitive-Behavioral Therapy for Child and Adolescent Stress (CBT-CATS)												Exemplary
	Cognitive-Behavioral Therapy for Child Sexual Abuse (CBTCSA)				Model								Exemplary
	Colorado Youth Leadership Project				Promising								
	Comer School Development Program							Favorable					
	Commit to Quit				Effective								

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	Communities in Schools (Formerly Cities in Schools)												Promising
	Communities Mobilizing for Change on Alcohol				Model								Exemplary
	Communities That Care						Effective						
	Community Laws and Policies Related to Weapons						Effective						
	Community of Caring					Promising							
	Community Policing Strategies						Effective						
	Community/School Policies						Effective						
	Community Trials Intervention to Reduce High-Risk Drinking (RHRD)				Model								Effective
	Comprehensive Gang Strategy (Little Village Gang Reduction Program)									Effective			Effective
	Computer-Assisted Instruction						Effective						
	Consistency Management & Cooperative Discipline (CMDC)							Favorable					Effective

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	Continuous Progress Instruction						Effective						
	Cooperative Learning Programs						Effective						
	Coping Power			Promising	Effective								Exemplary
	Coping With Stress Course			Effective									
	Coping with Work and Family Stress				Model								
	Counselors CARE and Coping and Support Training			Effective									
	Creating Lasting Family Connections				Model	Promising	Effective				Model		Exemplary
	Dando Fuerza a la Familia				Promising								
	DARE To Be You Program				Model						Model		Effective
	Delaware Juvenile Drug Court Diversion Program												Promising
	Depression Prevention Program			Effective									
	Detention Diversion Advocacy Program	Effective											Promising
	Dialectical Behavior Therapy Program for Incarcerated Female Juvenile Offenders												Promising

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	Dona Ana County (NM) Teen Court												Promising
	Earlscourt Social Skills Group Program			Effective				Favorable					
	Early Detection and Treatment of Postnatal Depression						Effective						
	Early Intervention for Preterm Infants Project						Effective						
	Early Risers Skills for Success Program				Model				Effective				Effective
	East Texas Experiential Learning Center				Effective								Promising
	Effective Black Parenting			Effective							Model		Effective
	Eight Percent Program	Effective											
	Enough Snuff				Effective								
	Enterprise Zones									Effective			
	Extended-Service Schools Initiative												Promising
	Facing History and Ourselves					Promising							Promising
	Faith Based Prevention				Promising								

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	Families and Schools Together (FAST)			Promising	Model						Model		Exemplary
	Families in Action												Exemplary
	Family Bereavement Program			Effective									
	Family Effectiveness Training (FET)				Model								Effective
	Family Health Promotion				Promising								Promising
	Family Literacy Program						Effective						
	Family Matters				Model								Exemplary
	FAN (Family Advocacy Network) Club				Effective								
	FAST Track		Promising	Effective			Effective	Promising				Promising 2	Effective
	Field Interrogations						Effective						
	First Step to Success			Effective			Effective	Favorable					Effective
	Focus on Families				Promising		Effective		Effective		Model		Effective
	Friendly PEERsuasion				Effective								
	Functional Family Therapy (FFT)	Effective	Model				Effective				Exemplary 1	Model 1	Exemplary

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	Gang Prevention Curricula						Effective						
	Gang Resistance Education and Training (G.R.E.A.T.)												Effective
	Gang Resistance is Paramount (GRIP)												Promising
	Gatekeeper Case Finding and Response System				Promising								
	Gentreaux Program									Effective			
	Get Real About Violence				Promising								Promising
	Girl's Circle												Promising
	Good Behavior Game	Effective	Promising	Effective	Effective		Effective	Promising				Promising 2	Effective
	Great Body Shop				Promising								Promising
	Growing Healthy					Promising	Effective						Effective
	Guiding Good Choices (Formerly Preparing for the Drug Free Years)		Promising		Model	Promising	Effective	Promising			Exemplary 1	Promising 2	Exemplary
	Hardcore Gang Investigators Unit -- LA County DA's Office												Effective

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	HeadOn: Substance Abuse Prevention for Grades 6-8				Promising								
	Head Start												Promising
	Healthy Families America										Model		Promising
	Healthy for Life						Effective						
	Healthy Workplace				Model								
	Helping the Noncompliant Child				Effective						Exemplary 1		Promising
	Home-Based Behavioral Systems Family Therapy				Effective								
	Home Instruction Program for Preschool Youngsters (HIPPY)										Model		
	HOMEBUILDERS										Model		
	Houston Parent-Child Development Center		Promising		Effective		Effective	Promising		Effective		Promising 2	
	I Can Problem Solve (Formerly Interpersonal Cognitive Problem Solving)		Promising	Effective	Promising	Promising	Effective	Promising				Promising 2	Effective
	Impact of Drinking Age Law				Effective								

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	Improving Social Awareness-Social Problem Solving			Effective			Effective	Favorable					
	The Incredible Years	Effective	Model		Model		Effective	Exemplary		Effective	Exemplary 1	Promising 2	Exemplary
	Independence Youth Court (IYC)												Promising
	Indianapolis Restorative Justice Project												Effective
	Individual Placement and Support				Effective								
	Infant Health and Development												Promising
	Intensified Motorized Patrol						Effective						
	Intensive Probation Supervision (Cleveland)												Promising
	Intensive Protective Supervision Project (IPSP)											Promising 1	
	Intensive Supervision Juvenile Probation Program (Peoria, IL)												Promising
	Jefferson County Juvenile Gun Court												Promising
	Job Corps									Effective			Effective

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	Job-Loss Recovery Program				Promising								
	JOBS Program				Model								
	Jobstart						Effective						
	Kansas City Gun Experiment												Effective
	Keep A Clear Mind (KACM)				Model								Effective
	Keepin' it REAL (Refuse, Explain, Avoid, Leave)				Model								Exemplary
	Kentucky Adolescent Tobacco Prevention Project				Effective								Promising
	Keys to Caregiving Videotape Series						Effective						
	Kids Intervention with Kids in School (KIKS)				Promising								
	Know Your Body						Effective	Favorable					Promising
	Last Chance Ranch	Effective											
	Leadership and Resiliency Program (LRP)				Model								Promising
	Legal Blood Alcohol Level (Effect of Maine's .05% Limit)				Effective								

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	Let Each One Touch One Mentor Program				Promising	Promising							Promising
	Life Skills '95												Effective
	Life Skills Training (LST)		Model		Model	Exemplary	Effective	Exemplary	Effective	Effective		Model 2	Exemplary
	Linking the Interests of Families and Teachers (LIFT)		Promising	Effective	Promising	Promising		Promising				Promising 2	Exemplary
	Lions-Quest Skills for Adolescence				Model	Promising							Effective
	Lions-Quest Working Toward Peace					Promising							Promising
	Maine Juvenile Drug Treatment Court												Promising
	Make Parenting a Pleasure										Promising		
	Mass Media Smoking Prevention Program							Favorable					
	Massachusetts Tobacco Control Program				Promising								
	MELD										Model		
	Mendota Juvenile Treatment Center												Effective
	Metropolitan Area Child Study						Effective						

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	Michigan Model for Comprehensive School Health Education					Promising		Favorable					Promising
	Michigan State Diversion Project												Promising
	Midwestern Prevention Project (Project STAR)		Model		Effective	Promising	Effective	Exemplary	Effective			Model 2	Effective
	Minimal Intervention Approach to Problem Gambling				Promising								
	Minneapolis Center for Victim-Offender Mediation												Promising
	Minnesota Smoking Prevention Program					Promising							Promising
	Mother-Child Program of Verbal Interaction Project						Effective						
	Movimiento Ascendencia												Promising
	Multidimensional Family Therapy (MDFT)	Effective			Effective						Exemplary 2		Effective
	Multidimensional Treatment Foster Care -OSLC	Effective	Model		Effective	Exemplary					Exemplary 1	Model 1	Exemplary
	Multimodal Substance Abuse Prevention				Promising								Promising

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	Multisystemic Therapy (MST)	Effective	Model		Model						Exemplary 1	Model 1	Exemplary
	National Council of Teachers of Mathematics (NCTM) Standards-Based Intervention						Effective						
	Native American Prevention Project Against AIDS/Substance Abuse (NAPPASA)												Promising
	NICASA Parent Project										Model		
	North Karelia							Favorable					
	N-O-T on Tobacco				Effective								Effective
	Nurse-Family Partnership (Formerly Prenatal and Infancy Home Visitation by Nurses)		Model		Model		Effective			Effective	Exemplary 2	Model 1	Exemplary
	Nurturing Parenting Program				Promising						Model		Promising
	Nurturing Program for Families in Substance Abuse Treatment and Recovery										Promising		
	Oakland Beat Health Program												Promising

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	Oakland Victim-Offender Reconciliation Program												Promising
	Open Circle Curriculum					Promising		Favorable					Promising
	Operation Ceasefire												Promising
	Orange County Juvenile Substance Abuse Treatment Court												Promising
	Parent-Child Assistance Program (P-CAP)				Promising								Effective
	Parent-Child Development Center												Exemplary
	Parent-Child Interaction Training						Effective					Promising 2	
	Parenting Partnership				Promising								Promising
	Parenting Wisely				Model						Exemplary 2		Promising
	Parenting with Love and Limits												Exemplary
	Parents Anonymous										Promising		
	Parents as Teachers										Model		Promising
	Parents Who Care						Effective				Model		

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	Participate and Learn Skills (PALS)	Effective					Effective			Effective			
	Partnership for Health				Effective								
	Pathways to Change				Effective								
	Peace Works												Promising
	PeaceBuilders	Effective			Promising	Promising	Effective	Favorable					Exemplary
	Peaceful Conflict Resolution and Violence Prevention Curriculum							Favorable					
	Peacemakers Program (Grades 4-8)				Promising	Promising							Effective
	Peer Assistance and Leadership Program (PAL)				Promising								
	Peer Coping Skills Training			Effective				Favorable					
	Peer-Assisted Learning Strategies (PALS)						Effective						
	Peers Making Peace				Promising	Promising							
	Perinatal Care Program				Promising								
	Perry Preschool Program/High Scope	Effective	Promising		Model		Effective	Promising		Effective		Promising 1	Exemplary

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	Philadelphia Youth Violence Reduction												Promising
	Phoenix House												Effective
	Physicians Counseling Smokers				Effective								
	Plan a Safe Stategy (PASS) Program				Promising								
	Positive Action				Model	Promising		Favorable					
	Positive Youth Development Program			Effective				Favorable		Effective			
	Preparing for School Success (PFSS)						Effective						
	Preventing School Vandalism and Disruptive Behavior							Favorable		Effective			
	Prevention and Relationship Enhancement Program (PREP)						Effective						
	Prevention Dimensions Program				Promising								
	Preventive Alcohol Education Program				Promising								Promising
	Preventive Treatment Program (Montreal Longitudinal Experimental Study)	Effective	Promising	Effective			Effective	Promising		Effective		Promising 1	Exemplary

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	Primary Mental Health Project			Effective		Promising							Promising
	Proactive Classroom Management						Effective						
	Program Development Evaluation (PDE) Method						Effective			Effective			
	Project ACHIEVE				Model								Promising
	Project ALERT		Promising		Model	Exemplary	Effective	Favorable		Effective			Exemplary
	Project Back-on-Track												Promising
	Project BASIS				Promising								
	Project Break Away				Promising								
	Project Care							Favorable		Effective			
	Project CRAFT												
	Project EX				Model								Effective
	Project Family								Effective				
	Project Link				Promising								Effective
	Project Northland		Promising		Model	Exemplary	Effective	Promising					Exemplary
	Project PACE				Promising								Promising

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	Project PATHE (Positive Action Through Holistic Education)												Promising
	Project Prince									Effective			
	Project RAISE									Effective			
	Project SEEK										Model		
	Project SUCCESS				Model								
	Project Toward No Drug Abuse (Project TND)		Model		Model								Exemplary
	Project Towards No Tobacco Use (TNT)				Model	Exemplary	Effective						Exemplary
	Project Venture				Model								
	Prolonged Exposure Therapy for Posttraumatic Stress Disorders				Model								Exemplary
	Promoting Action Through Holistic Education (Project PATHE)		Promising					Promising		Effective			
	Promoting Alternative Thinking Strategies (PATHS)		Model	Effective	Model	Promising	Effective	Exemplary		Effective		Promising 2	Exemplary

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	Promotion of the Use of Front-Pack Infant Carriers						Effective						
	Protecting You/Protecting Me				Model								Effective
	Quantum Opportunities Program (QOP)	Effective					Effective	Exemplary				Promising 2	
	Queensland Early Intervention and Prevention of Anxiety Project			Effective			Effective						
	Raising a Thinking Child						Effective				Exemplary 2		Effective
	Reading Recovery						Effective						
	Reconnecting Youth				Model			Favorable	Effective				
	Reducing the Risk						Effective						
	Repeat Offender Prevention Program												Promising
	Residential Student Assistance Program (RSAP)				Model								Effective
	Resolving Conflict Creatively Program (RCCP)	Effective			Effective								Effective
	Responding in Peaceful and Positive Ways (RIPP)				Model	Promising							Exemplary

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	Responsive Classroom												Promising
	Richmond Comprehensive Homicide Initiative												Effective
	Richmond Youth Against Violence Project: Responding in Peaceful and Positive Ways (RIPP)			Effective			Effective						
	Rockford Enhanced EAP				Effective								
	Rural Education Achievement Project				Effective								Promising
	Safe Dates				Model			Favorable					Exemplary
	SAFE-T												Effective
	San Diego County Breaking Cycles												Effective
	Saving Lives				Promising								Promising
	Say It Straight (SIS)				Promising	Promising							Promising
	SCARE Program					Promising							Promising
	School Development Program						Effective						
	School Safety Program							Favorable		Effective			

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	School Transitional Environment Program (STEP)		Promising	Effective			Effective	Promising		Effective		Promising 1	Effective
	School Violence Prevention Demonstration Program				Effective								Effective
	School-Based and Home-Based Tutoring for Transfer Students						Effective						
	School-based Smoking Prevention Program							Favorable					
	Schools and Families Education Children (SAFE Children)				Model								Effective
	Second Step: A Violence Prevention Curriculum			Effective	Model	Exemplary	Effective						Promising
	Sembrando Salud				Effective								Effective
	SISTERS				Promising								Promising
	SMART Leaders (Booster program for Boys and Girls Clubs of America's Stay SMART & SMART Moves)				Effective								Effective

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	SMART Team (Students Managing Anger and Resolution Together) (Formerly SMART Leaders)				Model	Promising							Effective
	Smoking Cessation Mass Media Intervention				Effective								
	SOAR (Skills, Opportunities, and Recognition) (Formerly Seattle Social Development Project)	Effective	Promising	Effective	Effective	Promising	Effective	Promising	Effective	Effective		Model 1	Effective
	Social Competence Promotion Program for Young Adolescents (SCPPYA)				Effective								Effective
	Social Decision-Making & Problem Solving					Promising							Promising
	Social Relations Program			Effective			Effective						
	Socio-moral Reasoning Development Program							Favorable					
	SOS: Signs of Suicide				Promising								Promising
	Spit Tobacco Intervention				Promising								Effective
	Star Model						Effective						

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	Start Taking Alcohol Risks Seriously (STARS) for Families				Model								Effective
	Stopping Teenage Addiction to Tobacco (STAT)				Effective								Effective
	Storytelling for Empowerment				Promising								
	Strengthening Families Program				Model		Effective		Effective		Exemplary 1		Exemplary
	Strengthening Families Program for Parents and Youth 10-14 (Formerly Iowa Strengthening Families Program)		Promising		Model	Exemplary		Promising			Exemplary 2	Promising 2	
	Strengthening Hawaii Families				Promising						Model		
	Strengthening Multi-Ethnic Families and Communities Program										Promising		
	Strengthening the Bonds of Chicano Youth and Families				Promising								Promising
	Stress Innoculation Training			Effective									
	Structured Playground Activities						Effective						
	Student Training Through Urban Strategies (STATUS)							Promising		Effective			

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	Students Helping Others Understand Tobacco (SHOUT)						Effective						
	Success for All						Effective	Favorable					
	Success in Stages												Effective
	Support for At-Risk Children				Effective								
	Supporting Adolescents with Guidance and Education (SAGE)												Promising
	Syracuse Family Development Research Program (FDRP)	Effective			Effective		Effective	Promising		Effective		Promising 1	Effective
	Teaching Students to be Peacemakers				Model								Promising
	Team Awareness				Model								
	Teams-Game-Tournament Alcohol Prevention				Promising								Effective
	Teen Outreach Program						Effective						
	Teenage Health Teaching Modules				Promising	Promising							Promising
	Therapeutic Workplace				Promising								

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	Think Time Strategy					Promising							
	Tinkham Alternative High School				Promising								
	Tobacco Policy and Prevention (TPP)				Effective								
	Too Good For Drugs (TGFD)				Model								Promising
	Too Good For Violence (TGFV)				Effective								Exemplary
	Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) (Formerly Cognitive Behavioral Therapy for Child and Adolescent Traumatic Stress)				Model								Exemplary
	Tri-Agency Resource Gang Enforcement Team												Effective
	TRIBES												Promising
	Truant Recovery Program												Promising
	Tutoring Programs						Effective						
	Urban Woman Against Substance Abuse (UWASA)				Promising								Promising
	Valued Youth Partnership Program						Effective						

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	Violence Prevention Curriculum for Adolescents												Promising
	Violent Juvenile Offender Program	Effective											
	VisionQuest												Effective
	Washington (DC) Community Violence Prevention Program									Effective			
	Washington, DC, Restitution Program												Promising
	Wayne County Intensive Probation Program												Promising
	Weed and Seed												Promising
	Wellness Outreach Program: A Step-by-Step Guide				Effective								
	Woodrock Youth Development Project				Promising		Effective						Promising
	Wraparound Milwaukee	Effective											Promising
	Yale Child Welfare Project							Promising		Effective		Promising 2	

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Notes

(1) American Youth Policy Forum: Less Hype, More Help: Reducing Juvenile Crime, What Works-and What Doesn't by Richard A. Mendel. American Youth Policy Forum, Washington, DC, 2000. Programs are categorized as "effective" (refer to www.aypf.org).

(2) Blueprints for Violence Prevention. Programs are divided into "model" and "promising" (refer to www.colorado.edu/cspv/blueprints).

(3) Center for Mental Health Services, US Department of Health and Human Services, Prevention Research Center for the Promotion of Human Development. Programs are divided into "effective" and "promising" (refer to www.prevention.psu.edu).

(4) Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration, Department of Health and Human Services, National Registry of Effective Programs. Programs are divided into "model," "promising," and "effective" (refer to www.modelprograms.samhsa.gov).

(5) Department of Education: Safe and Drug Free Schools. Programs are divided into "exemplary" and "promising" (refer to www.ed.gov/admins/lead/safety/exemplary01/panel.html)

(6) Communities that Care: Posey, Robin, Wong, Sherry, Catalano, Richard, Hawkins, David, Dusenbury, Linda, & Chappell, Patricia (2000). Communities That Care Prevention Strategies: A Research Guide to What Works. Programs are categorized as "effective" (refer to www.preventionscience.com/ctc/CTC.html; Developmental Research and Programs, Inc., Seattle, WA).

(7) Mihalic & Aultman-Bettridge (2004): A Guide to Effective School-Based Prevention Programs. Programs are divided into "exemplary", "promising" and "favorable" (refer to William L. Turk, (Ed.), *Policing and School Crime*, Englewood Cliffs, NJ: Prentice Hall Publishers, 2003).

(8) National Institute of Drug Abuse. Programs are categorized as "effective" (refer to National Clearinghouse for Alcohol and Drug Information, #734 at 1-800-729-6686).

(9) Sherman et al (1998): Preventing Crime: What Works, What Doesn't, What's Promising. University of Maryland Department of Criminology and Criminal Justice. NCJ 165366. Programs are categorized as "effective" (refer to www.ncjrs.org/works/wholedoc.htm or www.preventingcrime.org).

(10) Strengthening America's Families. Programs are divided into "exemplary 1," "exemplary 2," "model," and "promising" (refer to www.strengtheningfamilies.org).

(11) Youth Violence: A Report of the Surgeon General. Programs are divided into "model" and "promising": level 1-violence prevention; level 2-risk prevention (refer to www.surgeongeneral.gov/library/youthviolence).

(12) Title V (OJJDP): Effective & Promising Programs Guide. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Dept. of Justice. Programs are divided into "exemplary," "effective," and "promising" (refer to www.dsgonline.com).

Table created by: Sharon Mihalic, Blueprints Director, Updated 11/02/05.

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Matrix Sources Used for Risk Factor Identification

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Sherman, L. W., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P. & Bushway, S. (1998). *Preventing crime: What works, what doesn't, what's promising, A report to the United States Congress*. Washington, DC: National Institute of Justice and University of Maryland Department of Criminology and Criminal Justice, NCJ 165366. Available online at http://www.ncjrs.org/works/wholedoc.htm or http://www.preventingcrime.org.

Strengthening America's Families. (n.d.) *Effective family programs for prevention of delinquency*, Strengthening America's Families Web site. Washington, DC: the Office of Juvenile Justice and Delinquency Prevention (OJJDP) in collaboration with the Substance Abuse and Mental Health Service's Center for Substance Abuse Prevention (CSAP). Available online at http://www.strengtheningfamilies.org/html/model_programs.html.

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Mendel, R.A. (2000). *Less Hype, More Help: Reducing juvenile crime, What works—and what doesn't.* Washington, DC: American Youth Policy Forum. http://www.aypf.org. Reason for removal: Could not find information on criteria used.

Posey, R., Wong, S., Catalano, R., Hawkins, D., Dusenbury, L., & Chappell, P. (2000). *Communities that care prevention strategies: A research guide to what works*. Seattle, WA: Developmental Research and Programs, Inc. http://www.preventionscience.com/ctc/CTC.html. Reason for removal: Database acquired by SAMHSA and could not find criteria used or reference article; most of programs covered by this source are recommended elsewhere.

Mihalic & Aultman-Bettridge. (2004). A guide to school-based prevention programs. See W.T. Turk, (Ed.), *Policing and school crime*, Englewood Cliffs, NJ: Prentice Hall Publishers. Reason for removal: Criteria found, but upon review, criteria was less rigorous than other sources; would not add any new information using the two-source/top-tier criteria.

National Institute of Drug Abuse, National Clearinghouse for Alcohol and Drug Information, #734 at 1-800-729-6686. Reason for removal: Criteria found did not fit those used by others—many of these programs already included by CSAP/SAMHSA.

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Appendix F

Exemplary Program Charts and Additional Information

Table F-1. Sources for Program Ratings and Criteria Used for Rating*

SOURCE (# on The Matrix of Prevention Programs)	Tier 1/Level 1	Tier 2/Level 2	Tier 3/Level 3
Blueprints for Violence Prevention (2)	**Model**	**Promising**	
	Evidence of deterrent effect with a strong research design (experimental design or those using comparison groups w/statistical controls), sustained effect, and multiple site replication. Also consider whether mediating factors analyzed and if cost effective.	Evidence of deterrent effect with a strong research design BUT not proven sustained effect OR multiple site replication.	
Center for Mental Health Services Greenberg et al. 1999 (3)	**Effective**		**Promising**
	Evaluated using either experimental or quasi-experimental design (w/adequate comparison group). Required to have pre-/post-findings, preferably w/follow-up data to address duration and stability of program effects; written manual specifying model and procedures; and sample clearly specified and characteristics.		Promising but not yet proven programs.
Center for Substance Abuse Prevention (CSAP) (4)	**Model & Effective**	**Effective**	**Promising**
Also referred to as SAMHSA review criteria—which is parent org for CSAP.	*Model* Well-implemented, well-evaluated programs, independently reviewed, based on 15 criteria and rigorous standards of the National Registry of Evidence-based Programs and Practices (NREPP). Programs score at least 4.0 on a 5-point scale on Integrity and Utility. Must be judged to have the capacity for dissemination to become Model Programs and have coordinated and agreed with SAMHSA to provide quality materials, training, and		Have been implemented and evaluated sufficiently and are considered to be scientifically defensible. Have demonstrated positive outcomes in preventing substance abuse and related behaviors but not yet been shown to have sufficient rigor and/or consistently positive outcomes required for Effective Program status. Must score at least 3.33 on the 5-point scale on parameters of integrity and utility. Eligible to be elevated to Effective status subsequent to review of

SOURCE (# on The Matrix of Prevention Programs)	Tier 1/Level 1	Tier 2/Level 2	Tier 3/Level 3
	technical assistance for nationwide implementation. *Effective* Meets all qualifications for model except either not judged as having capacity for dissemination or have yet to agree to work with SAMHSA/CSAP to support broad-based dissemination of their programs but may disseminate their programs themselves. Upgraded to model after this taken care of.		additional documentation regarding program effectiveness.
Department of Education-Safe Schools (5)	**Exemplary**		**Promising**
	Rigorously field-tested and have solid evidence of effectiveness. Use of control group with large difference in results between groups. Rated 0-3 on each of seven criteria in four areas: evidence of efficacy, quality of program, educational significance, and usefulness to others.		Well-designed programs not yet thoroughly tested. May have been evaluated but with weak design. May have only been developed, implemented/evaluated in only one site. Rated on same criteria as exemplary.
Sherman et al. (1997) (9)	**Effective**		
	Has at least two studies w/methodological rigor (as judged by two reviewers on CSAP-like instrument) ≥"3"on the instrument and w/significance tests, find crime prevention effects for program condition. Where effect sizes available, effect is at least one-tenth of one standard deviation (e.g., effect size +.1) better than the effects for the control condition and preponderance of evidence supports same conclusion.		
Strengthening America's Families (10)	**Exemplary I and II**	**Model**	**Promising**

SOURCE (# on The Matrix of Prevention Programs)	Tier 1/Level 1	Tier 2/Level 2	Tier 3/Level 3
	Exemplary I Program has experimental design with randomized sample and replication by an independent investigator. Outcome data show clear evidence of program effectiveness. Fifteen criteria used for review. *Exemplary II (moved from Tier 2)* Program has experimental design with randomized sample. BUT not replication by independent investigator. Outcome data show clear evidence of program effectiveness.	*Model* Program has experimental or quasi-experimental design with few or no replications. Data are not as strong in demonstrating program effectiveness.	Program has limited research and/or employs non-experimental designs. Data appears promising, but requires confirmation using scientific techniques. Theoretical base and/or other program aspects are sound.
Surgeon General's Report (2001) (11)	**Model 1 and Model 2**	**Promising 1 and Promising 2**	
	Based on rigorous experimental design (experimental or quasi-experimental), program demonstrates significant deterrent effects on: ▪ Violence or serious delinquency (Model 1) ▪ Any risk factor for violence with a large effect (.30 or greater) (Model 2) Program has been replicated with demonstrated effects and proven sustainability of effects.	Based on rigorous experimental design (experimental or quasi-experimental), program demonstrates significant deterrent effects on: ▪ Violence or serious delinquency (Promising 1) ▪ Any risk factor for violence with an effect size of .10 or greater (Promising 2) Program has either been replicated or proven sustainability of effects.	
Title V (OJJDP) (12)	**Exemplary**	**Effective**	**Promising**
	In general, when implemented with a high degree of fidelity, these programs demonstrate robust empirical findings using a reputable conceptual framework and an evaluation design of	In general, when implemented with sufficient fidelity, these programs demonstrate adequate empirical findings using a sound conceptual framework and an evaluation design of	In general, when implemented with minimal fidelity, these programs demonstrate promising (perhaps inconsistent) empirical findings using a reasonable conceptual framework and a

SOURCE (# on The Matrix of Prevention Programs)	Tier 1/Level 1	Tier 2/Level 2	Tier 3/Level 3
	the highest quality (experimental).	high quality (quasi-experimental).	limited evaluation design (single group pre- and post-test) that requires causal confirmation using more appropriate experimental techniques.
Sources included on the original matrix but not used in program selection			
American Youth Policy Forum (1)			
Cannot find information on criteria used—programs categorized only as "effective"			
Communities That Care-Developmental Research and Programs (6)			
Database was acquired by SAMHSA and can't find criteria or the reference article—most of programs they rate are rated elsewhere			
Mihalic & Aultman-Bettridge (2004) (7)			
Criteria not found online—Referenced document to find criteria available at the Clemson Library; however, upon review, would not add any new information using the two-source/top-tier criteria. If find that we are short some programs after review, will look at document to possibly add programs.			
National Institute of Drug Abuse (NIDA) (8)			
Criteria found did not fit those used by others—many of these programs covered by CSAP/SAMHSA.			

NOTE: From *The Matrix of Prevention Programs*, by S. F. Mihalic, Boulder, CO: Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado at Boulder, retrieved online June 23, 2006, at http://www.colorado.edu/cspv/blueprints/matrix/overview.htm.

*Matrix Sources:

(2) Blueprints for Violence Prevention: Programs are divided into **Model and Promising** (refer to http://www.colorado.edu/cspv/blueprints).

(3) Center for Mental Health Services, U.S. Department of Health and Human Services, Prevention Research Center for the Promotion of Human Development, Greenberg et al., 1999: Programs are divided into **Effective and Promising** (refer to http://www.prevention.psu.edu)

(4) Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration, Department of Health and Human Services, National Registry of Effective Programs: Programs are divided into **Model, Effective or Promising** (refer to http://www.modelprograms.samhsa.gov).

(5) Department of Education: Safe and Drug Free Schools: Programs are divided into **Exemplary and Promising** (refer to http://www.ed.gov/admins/lead/safety/exemplary01/panel.html).

(9) Sherman et al. (1998): *Preventing crime: What works, what doesn't, what's promising*. University of Maryland Department of Criminology and Criminal Justice. NCJ 165366. Programs are categorized as **Effective** (refer to http://www.ncjrs.org/works/wholedoc.htm or http://www.preventingcrime.org).

(10) Strengthening America's Families: Programs are divided into **Exemplary 1**, **Exemplary 2**, **Model,** and **Promising** (refer to http://www.strengtheningfamilies.org)

(11) *Youth violence: A report of the Surgeon General*: Programs are divided into **Model (Levels 1 and 2)** and **Promising: Level 1-Violence Prevention; Level 2-Risk Prevention** (refer to http://www.surgeongeneral.gov/library/youthviolence).

(12) Title V (OJJDP): *Effective & promising programs guide*. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Dept. of Justice. Programs are divided into **Exemplary, Effective, and Promising** (refer to http://www.dsgonline.com).

********** Removed from Matrix **********

(1) American Youth Policy Forum: *Less hype, more help: Reducing juvenile crime, what works—and what doesn't*, by Richard A. Mendel, 2000. Washington, DC: American Youth Policy Forum. Programs are categorized as **Effective** (refer to http://www.aypf.org). Difficulty finding information on criteria used.

(6) Communities that Care: *Communities that care prevention strategies: A research guide to what works*, by R. Posey, S. Wong, R. Catalano, D. Hawkins, L. Dusenbury, & P. Chappell, 2000, Seattle, WA: Developmental Research and Programs, Inc. Programs are categorized as **Effective** (refer to http://www.preventionscience.com/ctc/CTC.html. Database acquired by SAMHSA and can't find criteria or reference article. Most of programs included in their list are covered by other sources.

(7) A guide to effective school-based prevention programs, by S. Mihalic & Aultman-Bettridge, 2004, in W. L. Turk (Ed.), *Policing and school crime*, Englewood Cliffs, NJ: Prentice Hall Publishers, 2003. Programs are divided into **Exemplary, Promising, and Favorable.** Criteria located, but on review of programs included, does not add any new information using the two-source/top-tier criteria.

(8) National Institute of Drug Abuse: Programs are categorized as **effective** (refer to National Clearinghouse for Alcohol and Drug Information, #734 at 1-800-729-6686). Criteria found did not fit those used by others. Many of these programs were included in the SAMHSA model programs.

Table F-2. Programs Rated as Tier 1 Programs in At Least Two Sources

A	C	D	E	F	J	K	L	M
Matrix of Programs (Updated 11/02/2005)	Blueprints for Violence Prevention (2)	Center for Mental Health Services-Greenberg et al. (3)	Center for Substance Abuse Prevention (CSAP) (4)	Department of Education-Safe Schools (5)	Sherman et al. (1997) (9)	Strengthening America's Families (10)	Surgeon General's Report (2001) (11)	Title V (OJJDP) (12)
Adolescent Transitions Program		Effective				Exemplary 2		Effective
Athletes Training and Learning to Avoid Steroids (ATLAS)	Promising		Model	Exemplary				Exemplary
Big Brothers Big Sisters of America	Model	Effective	Effective		Effective			Exemplary
Brief Strategic Family Therapy (BSFT)	Promising		Model			Exemplary 2		Effective
CASASTART	Promising		Model	Exemplary			Promising 1	Effective
Children of Divorce Intervention Program		Effective	Effective					Effective
Cognitive Behavioral Therapy for Child Sexual Abuse (CBTCSA)			Model					Exemplary
Coping Power		Promising	Effective					Exemplary
Family Matters			Model					Exemplary
FAST Track	Promising	Effective					Promising 2	Exemplary
Functional Family Therapy (FFT)	Model					Exemplary 1	Model 1	Exemplary
Good Behavior Game	Promising	Effective	Effective				Promising 2	Exemplary
Guiding Good Choices (Formerly Preparing for the Drug Free Years)	Promising		Model	Promising		Exemplary 1	Promising 2	Exemplary
Helping the Noncompliant Child			Effective			Exemplary 1		Promising
Keepin' it REAL (Refuse, Explain, Avoid, Leave)			Model					Exemplary
Life Skills Training (LST)	Model		Model	Exemplary	Effective		Model 2	Exemplary
Linking the Interests of Families and Teachers (LIFT)	Promising	Effective	Promising	Promising			Promising 2	Exemplary
Midwestern Prevention Project (Project STAR)	Model		Effective	Promising			Model 2	Effective
Multidimensional Family Therapy (MDFT)			Model			Exemplary 2		Effective
Multidimensional Treatment Foster Care-OSLC	Model		Effective	Exemplary		Exemplary 1	Model 1	Exemplary
Multisystemic Therapy (MST)	Model		Model			Exemplary 1	Model 1	Exemplary
Nurse-Family Partnership (Formerly Prenatal and Infancy Home Visitation by Nurses)	Model		Model		Effective	Exemplary 2	Model 1	Exemplary
Parenting Wisely			Model			Exemplary 2		Promising
Preventive Treatment Program (Montreal Longitudinal Experimental Study)	Promising	Effective			Effective		Promising 1	Exemplary

A	C	D	E	F	J	K	L	M
Matrix of Programs (Updated 11/02/2005)	**Blueprints for Violence Prevention (2)**	**Center for Mental Health Services-Greenberg et al. (3)**	**Center for Substance Abuse Prevention (CSAP) (4)**	**Department of Education-Safe Schools (5)**	**Sherman et al. (1997) (9)**	**Strengthening America's Families (10)**	**Surgeon General's Report (2001) (11)**	**Title V (OJJDP) (12)**
Project Toward No Drug Abuse (Project TND)	**Model**		**Model**					**Exemplary**
Project Towards No Tobacco Use (TNT)			**Model**	**Exemplary**				**Exemplary**
Prolonged Exposure Therapy for Posttraumatic Stress Disorders			**Model**					**Exemplary**
Promoting Alternative Thinking Strategies (PATHS)	**Model**	**Effective**	**Model**	**Promising**	**Effective**		**Promising 2**	**Exemplary**
Responding in Peaceful and Positive Ways (RIPP)			**Model**	**Promising**				**Exemplary**
Safe Dates			**Model**					**Exemplary**
School Transitional Environment Program (STEP)	**Promising**	**Effective**			**Effective**		**Promising 1**	**Effective**
SOAR (Skills, Opportunities, and Recognition) (Formerly Seattle Social Development Project)	**Promising**	**Effective**	**Effective**	**Promising**	**Effective**		**Model 1**	**Effective**
Strengthening Families Program			**Model**			**Exemplary 1**		**Exemplary**
Strengthening Families Program for Parents and Youth 10-14 (Formerly Iowa Strengthening Families Program)	**Promising**		**Model**	**Exemplary**		**Exemplary 2**	**Promising 2**	
The Incredible Years	**Model**		**Model**		**Effective**	**Exemplary 1**	**Promising 2**	**Exemplary**
Too Good For Violence (TGFV)			**Model**					**Exemplary**
Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) (Formerly Cognitive Behavioral Therapy for Child and Adolescent Traumatic Stress)			**Model**					**Exemplary**

Tier 1/Level 1 Programs

Tier 2/Level 2 Programs

Tier 3/Level 3 Programs

SOURCE: Excerpted from *The Matrix of Prevention Programs*, by S. F. Mihalic, Boulder, CO: Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado at Boulder, retrieved online June 23, 2006, at http://www.colorado.edu/cspv/blueprints/matrix/overview.htm.

Table F-3. Programs Requiring Removal After Adjusted Rating due to Mismatch Between Matrix and Web Site

A	C	D	E	F	J	K	L	M
Matrix of Programs (Updated 11/02/2005)	Blueprints for Violence Prevention (2)	Center for Mental Health Services-Greenberg et al. (3)	Center for Substance Abuse Prevention (CSAP) (4)	Department of Education-Safe Schools (5)	Sherman et al. (1997) (9)	Strengthening America's Families (10)	Surgeon General's Report (2001) (11)	Title V (OJJDP) (12)
Across Ages			Model					Promising
Al's Pals: Kids Making Healthy Choices			Model	Promising				Effective
Children in the Middle			Model					Promising
Creating Lasting Family Connections			Model	Promising		Model		Effective
Families and Schools Together (FAST)		Promising	Model			Model		Promising

Table F-4. Programs Pulled due to Issue with Program/Evaluation Quality

A	C	D	E	F	J	K	L	M
Matrix of Programs (Updated 11/02/2005)	Blueprints for Violence Prevention (2)	Center for Mental Health Services-Greenberg et al. (3)	Center for Substance Abuse Prevention (CSAP) (4)	Department of Education-Safe Schools (5)	Sherman et al. (1997) (9)	Strengthening America's Families (10)	Surgeon General's Report (2001) (11)	Title V (OJJDP) (12)
Anger Coping Program		Effective			Effective			Effective
Bullying Prevention Program (BPP)	Model	Effective	Model		Effective		Promising 2	Effective
Caring School Community		Effective	Model	Promising	Effective			Effective
Positive Youth Development		Effective			Effective			
Project ALERT	Promising		Model	Exemplary	Effective			Exemplary
Project Northland	Promising		Model	Exemplary				Exemplary
Second Step		Effective	Model	Exemplary				Effective
Syracuse Family Development Research Program			Effective		Effective		Promising 1	Effective

Table F-5. Programs Pulled due to Target Population

A	C	D	E	F	J	K	L	M
Matrix of Programs (Updated 11/02/2005)	Blueprints for Violence Prevention (2)	Center for Mental Health Services-Greenberg et al. (3)	Center for Substance Abuse Prevention (CSAP) (4)	Department of Education-Safe Schools (5)	Sherman et al. (1997) (9)	Strengthening America's Families (10)	Surgeon General's Report (2001) (11)	Title V (OJJDP) (12)
Houston Parent-Child Development Center	Promising		Effective		Effective		Promising 2	

Matrix Sources:

(2) Blueprints for Violence Prevention: Programs are divided into **Model and Promising** (refer to http://www.colorado.edu/cspv/blueprints).

(3) Center for Mental Health Services, U.S. Department of Health and Human Services, Prevention Research Center for the Promotion of Human Development, Greenberg et al., 1999: Programs are divided into **Effective and Promising** (refer to http://www.prevention.psu.edu).

(4) Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration, Department of Health and Human Services, National Registry of Effective Programs: Programs are divided into **Model, Effective, or Promising** (refer to http://www.modelprograms.samhsa.gov).

(5) Department of Education: Safe and Drug Free Schools: Programs are divided into **Exemplary and Promising** (refer to http://www.ed.gov/admins/lead/safety/exemplary01/panel.html).

(9) Sherman et al. (1998): *Preventing crime: What works, what doesn't, what's promising*. University of Maryland Department of Criminology and Criminal Justice. NCJ 165366. Programs are categorized as **Effective** (refer to http://www.ncjrs.org/works/wholedoc.htm or http://www.preventingcrime.org).

(10) Strengthening America's Families: Programs are divided into **Exemplary 1**, **Exemplary 2**, **Model,** and **Promising** (refer to http://www.strengtheningfamilies.org).

(11) *Youth violence: A report of the Surgeon General*: Programs are divided into **Model (Levels 1 and 2)** and **Promising: Level 1-Violence Prevention; Level 2-Risk Prevention** (refer to http://www.surgeongeneral.gov/library/youthviolence).

(12) Title V (OJJDP): *Effective & promising programs guide*. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Dept. of Justice. Programs are divided into **Exemplary, Effective, and Promising** (refer to http://www.dsgonline.com).

Table F-6. Impacted Risk Factors of Selected Exemplary Programs

Risk Factors	Across Ages	Adolescent Sexuality & Pregnancy Prevention	Adolescent Transitions Program	AVID	ATLAS	Big Brothers Big Sisters	Brief Strategic Family Therapy
I. Individual Background Characteristics							
Has a learning disability or emotional disturbance							X
II. Early Adult Responsibilities							
High number of work hours							
Parenthood		X					
III. Social Attitudes, Values & Behavior							
High-risk peer group							X
High-risk social behavior	X		X		X	X	X
Highly socially active outside of school							
IV. School Performance							
Low achievement		X		X		X	
Retention/over-age for grade							
V. School Engagement							
Poor attendance	X					X	
Low educational expectations							
Lack of effort							
Low commitment to school	X						
No extracurricular participation	X	X					
VI. School Behavior							
Misbehavior			X				X
Early aggression							
VII. Family Background Characteristics							
Low SES family							
High family mobility							
Low education level of parents							
Large number of siblings							
Not living with both natural parents						X	
Family disruption						X	
VIII. Family Engagement/Commitment to Education							
Low educational expectations							
Sibling(s) has dropped out							
Low contact with school				X			
Lack of conversation about school							

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Career Academy	CASASTART	Check & Connect	Children of Divorce Intervention Program	Coca-Cola Valued Youth Program	Cognitive Behavioral Therapy for Child Sexual Abuse	Coping Power
I. Individual Background Characteristics							
Has a learning disability or emotional disturbance			X			X	X
II. Early Adult Responsibilities							
High number of work hours							
Parenthood							
III. Social Attitudes, Values & Behavior							
High-risk peer group		X					
High-risk social behavior		X				X	X
Highly socially active outside of school							
IV. School Performance							
Low achievement			X		X		
Retention/over-age for grade		X					
V. School Engagement							
Poor attendance	X		X				
Low educational expectations							
Lack of effort					X		
Low commitment to school					X		
No extracurricular participation		X			X		
VI. School Behavior							
Misbehavior				X			X
Early aggression							
VII. Family Background Characteristics							
Low SES family							
High family mobility							
Low education level of parents							
Large number of siblings							
Not living with both natural parents				X			
Family disruption				X			
VIII. Family Engagement/Commitment to Education							
Low educational expectations							
Sibling(s) has dropped out							
Low contact with school							
Lack of conversation about school							

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Families & Schools Together	Family Matters	Fast Track	Functional Family Therapy	Good Behavior Game	Guiding Good Choices
I. Individual Background Characteristics						
Has a learning disability or emotional disturbance			X	X		
II. Early Adult Responsibilities						
High number of work hours						
Parenthood						
III. Social Attitudes, Values & Behavior						
High-risk peer group						
High-risk social behavior		X		X	X	X
Highly socially active outside of school						
IV. School Performance						
Low achievement	X					
Retention/over-age for grade						
V. School Engagement						
Poor attendance						
Low educational expectations						
Lack of effort						
Low commitment to school						
No extracurricular participation	X					
VI. School Behavior						
Misbehavior	X		X		X	
Early aggression	X		X		X	
VII. Family Background Characteristics						
Low SES family						
High family mobility						
Low education level of parents	X					
Large number of siblings						
Not living with both natural parents						
Family disruption						
VIII. Family Engagement/Commitment to Education						
Low educational expectations						
Sibling(s) has dropped out						
Low contact with school	X		X			
Lack of conversation about school						

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Helping the Noncompliant Child	Keepin' it REAL	LA's BEST	LifeSkills Training	Linking Interests of Families & Teachers	Midwestern Prevention Project
I. Individual Background Characteristics						
Has a learning disability or emotional disturbance	X				X	
II. Early Adult Responsibilities						
High number of work hours						
Parenthood						
III. Social Attitudes, Values & Behavior						
High-risk peer group		X			X	
High-risk social behavior	X	X		X	X	X
Highly socially active outside of school						
IV. School Performance						
Low achievement	X		X			
Retention/over-age for grade						
V. School Engagement						
Poor attendance			X			
Low educational expectations			X			
Lack of effort						
Low commitment to school			X			
No extracurricular participation			X			
VI. School Behavior						
Misbehavior					X	
Early aggression	X				X	
VII. Family Background Characteristics						
Low SES family						
High family mobility						
Low education level of parents						
Large number of siblings						
Not living with both natural parents						
Family disruption						
VIII. Family Engagement/Commitment to Education						
Low educational expectations						
Sibling(s) has dropped out						
Low contact with school						
Lack of conversation about school						

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Multidimensional Family Therapy	Multidimensional Treatment Foster Care	Multisystemic Therapy	Nurse-Family Partnership	Parenting Wisely	Preventive Treatment Program
I. Individual Background Characteristics						
Has a learning disability or emotional disturbance		X	X			X
II. Early Adult Responsibilities						
High number of work hours						
Parenthood				X		
III. Social Attitudes, Values & Behavior						
High-risk peer group	X					X
High-risk social behavior	X	X	X	X	X	X
Highly socially active outside of school						
IV. School Performance						
Low achievement	X					
Retention/over-age for grade						X
V. School Engagement						
Poor attendance						
Low educational expectations						
Lack of effort	X					
Low commitment to school						
No extracurricular participation	X					
VI. School Behavior						
Misbehavior	X					X
Early aggression						
VII. Family Background Characteristics						
Low SES family				X		
High family mobility						
Low education level of parents						
Large number of siblings				X		
Not living with both natural parents					X	
Family disruption					X	
VIII. Family Engagement/Commitment to Education						
Low educational expectations						
Sibling(s) has dropped out						
Low contact with school						
Lack of conversation about school					X	

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Project GRAD	Project Toward No Drug Abuse	Project Towards No Tobacco Abuse	Prolonged Exposure Therapy for PTSD	PATHS	Quantum Opportunities	Responding in Peaceful & Positive Ways
I. Individual Background Characteristics							
Has a learning disability or emotional disturbance							
II. Early Adult Responsibilities							
High number of work hours							
Parenthood						X	
III. Social Attitudes, Values & Behavior							
High-risk peer group							
High-risk social behavior		X	X	X			
Highly socially active outside of school							
IV. School Performance							
Low achievement	X					X	
Retention/over-age for grade							
V. School Engagement							
Poor attendance							
Low educational expectations						X	
Lack of effort							
Low commitment to school							
No extracurricular participation						X	
VI. School Behavior							
Misbehavior	X				X		X
Early aggression					X		X
VII. Family Background Characteristics							
Low SES family							
High family mobility							
Low education level of parents							
Large number of siblings							
Not living with both natural parents							
Family disruption							
VIII. Family Engagement/Commitment to Education							
Low educational expectations							
Sibling(s) has dropped out							
Low contact with school	X						
Lack of conversation about school							

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Safe Dates	SAFE Children	SOAR	STEP	Strengthening Families Program	Strengthening Families Program for Parents & Youth 10-14
I. Individual Background Characteristics						
Has a learning disability or emotional disturbance					X	X
II. Early Adult Responsibilities						
High number of work hours						
Parenthood			X			
III. Social Attitudes, Values & Behavior						
High-risk peer group						
High-risk social behavior	X		X	X	X	X
Highly socially active outside of school						
IV. School Performance						
Low achievement		X	X	X		
Retention/over-age for grade						
V. School Engagement						
Poor attendance				X		
Low educational expectations				X		
Lack of effort			X			
Low commitment to school				X		
No extracurricular participation						
VI. School Behavior						
Misbehavior			X	X		
Early aggression		X			X	
VII. Family Background Characteristics						
Low SES family						
High family mobility						
Low education level of parents						
Large number of siblings						
Not living with both natural parents						
Family disruption						
VIII. Family Engagement/Commitment to Education						
Low educational expectations						
Sibling(s) has dropped out						
Low contact with school		X				
Lack of conversation about school						

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-6. Impacted Risk Factors of Selected Exemplary Programs (cont'd.)

Risk Factors	Success for All	Teen Outreach Program	The Incredible Years	Too Good for Violence	Trauma-Focused Cognitive Behavioral Therapy
I. Individual Background Characteristics					
Has a learning disability or emotional disturbance	X				X
II. Early Adult Responsibilities					
High number of work hours					
Parenthood		X			
III. Social Attitudes, Values & Behavior					
High-risk peer group					
High-risk social behavior				X	X
Highly socially active outside of school					
IV. School Performance					
Low achievement	X	X			
Retention/over-age for grade					
V. School Engagement					
Poor attendance					
Low educational expectations					
Lack of effort			X		
Low commitment to school					
No extracurricular participation					
VI. School Behavior					
Misbehavior		X	X	X	
Early aggression					
VII. Family Background Characteristics					
Low SES family					
High family mobility					
Low education level of parents					
Large number of siblings					
Not living with both natural parents					X
Family disruption					X
VIII. Family Engagement/Commitment to Education					
Low educational expectations					
Sibling(s) has dropped out					
Low contact with school	X		X		
Lack of conversation about school					

Note: Selected quality programs ranked in highest tier/category in at least two sources.

Table F-7. Exemplary Programs Addressing Individual Risk Factor Categories

Risk Factors for School Dropout	Programs Addressing Risk Factor Category
Individual Background Characteristics	**15**
Has a learning disability or emotional disturbance	Brief Strategic Family Therapy Check & Connect Cognitive Behavioral Therapy for Child Sexual Abuse Coping Power Fast Track Functional Family Therapy Helping the Noncompliant Child Linking Interests of Families & Teachers Multidimensional Treatment Foster Care Multisystemic Therapy Preventive Treatment Program Strengthening Families Program Strengthening Families Program for Parents and Youth 10-14 Success for All Trauma-Focused Cognitive Behavioral Therapy
Early Adult Responsibilities	**5**
High number of work hours; Parenthood	Adolescent Sexuality & Pregnancy Prevention Program Nurse-Family Partnership Quantum Opportunities Skills, Opportunities, and Recognition (SOAR) Teen Outreach Program
Social Attitudes, Values, & Behavior	**33**
High-risk peer group; High-risk social behavior; Highly socially active outside of school	Across Ages Adolescent Transitions Program Athletes Training and Learning to Avoid Steroids (ATLAS) Big Brothers Big Sisters Brief Strategic Family Therapy CASASTART Cognitive Behavioral Therapy for Child Sexual Abuse Coping Power Family Matters Functional Family Therapy Good Behavior Game Guiding Good Choices Helping the Noncompliant Child Keepin' it REAL LifeSkills Training Linking Interests of Families & Teachers Midwestern Prevention Project (Project STAR) Multidimensional Family Therapy Multidimensional Treatment Foster Care Multisystemic Therapy

Risk Factors for School Dropout	Programs Addressing Risk Factor Category
	Nurse-Family Partnership Parenting Wisely Preventive Treatment Program Project Toward No Drug Abuse Project Towards No Tobacco Use Prolonged Exposure Therapy for PTSD Safe Dates School Transitional Environment Program (STEP) Skills, Opportunities, and Recognition (SOAR) Strengthening Families Program Strengthening Families Program for Parents and Youth 10-14 Too Good for Violence Trauma-Focused Cognitive Behavioral Therapy
School Performance	**18**
Low achievement; Retention/over-age for grade	Adolescent Sexuality & Pregnancy Prevention Program Advancement Via Individual Determination (AVID) Big Brothers Big Sisters CASASTART Check & Connect Coca-Cola Valued Youth Program Families & Schools Together Helping the Noncompliant Child LA's BEST Multidimensional Family Therapy Preventive Treatment Program Project GRAD Quantum Opportunities Schools & Families Educating Children (SAFE Children) School Transitional Environment Program (STEP) Skills, Opportunities, and Recognition (SOAR) Success for All Teen Outreach Program
School Engagement	**14**
Poor attendance; Low educational expectations; Lack of effort; Low commitment to school; No extracurricular participation	Across Ages Adolescent Sexuality & Pregnancy Prevention Program Big Brothers Big Sisters Career Academy CASASTART Check & Connect Coca-Cola Valued Youth Program Families and Schools Together LA's BEST Multidimensional Family Therapy

Risk Factors for School Dropout	Programs Addressing Risk Factor Category
	Quantum Opportunities School Transitional Environment Program (STEP) Skills, Opportunities, and Recognition (SOAR) The Incredible Years
School Behavior	**21**
Misbehavior; Early aggression	Adolescent Transitions Program Brief Strategic Family Therapy Children of Divorce Intervention Program Coping Power Families & Schools Together Fast Track Good Behavior Game Helping the Noncompliant Child Linking Interests of Families & Teachers Multidimensional Family Therapy Preventive Treatment Program Project GRAD Promoting Alternative Thinking Strategies (PATHS) Responding in Peaceful and Positive Ways Schools & Families Educating Children (SAFE Children) School Transitional Environment Program (STEP) Skills, Opportunities, and Recognition (SOAR) Strengthening Families Program Teen Outreach Program The Incredible Years Too Good for Violence
TOTAL NUMBER OF PROGRAMS	**50**

Table F-8. Exemplary Programs Addressing Family Risk Factor Categories

Risk Factors for School Dropout	Programs Addressing Risk Factor Category
Family Background Characteristics	**6**
Low socioeconomic status; High family mobility; Low education level of parents; Large number of siblings; Not living with both natural parents; Family disruption	Big Brothers Big Sisters Children of Divorce Intervention Program Families & Schools Together Nurse-Family Partnership Parenting Wisely Trauma-Focused Cognitive Behavioral Therapy
Family Engagement/Commitment to Education	**8**
Low educational expectations; Sibling has dropped out; Low contact with school; Lack of conversations about school	Advancement Via Individual Determination (AVID) Families & Schools Together Fast Track Parenting Wisely Project GRAD Schools & Families Educating Children (SAFE Children) Success for All The Incredible Years
TOTAL NUMBER OF PROGRAMS	**14**

Table F-9. Program Strategies of Identified Exemplary Programs*

Program Strategy	Across Ages	Adolescent Sexuality & Pregnancy Prevention	Adolescent Transitions Program	AVID	ATLAS	Big Brothers Big Sisters	Brief Strategic Family Therapy
Academic support		X		X			
Adult education							
After-school	X				X	X	
Behavioral intervention							
Career development/job training							
Case management		X	X				
Conflict resolution/anger mgmt..							
Court advocacy/probation/transition							
Family engagement	X				X		
Family strengthening			X	X			X
Family therapy			X				X
Gang intervention/prevention							
Life skills development	X	X			X		X
Mental health services		X					
Mentoring	X					X	
Pregnancy prevention		X					
School/classroom environment							
Service-learning							
Structured extracurricular activities	X	X		X			
Substance abuse prevention					X		
Teen parent support							
Truancy prevention							
Other			X	X			

*Selected quality programs ranked in highest tier/category in at least two sources.

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Career Academy	CASASTART	Check & Connect	Children of Divorce Intervention Program	Coca-Cola Valued Youth Program	Cognitive Behavioral Therapy for Child Sexual Abuse	Coping Power
Academic support		X	X		X		
Adult education							
After-school							
Behavioral intervention			X			X	X
Career development/job training	X						
Case management		X	X				
Conflict resolution/anger mgmt..							X
Court advocacy/probation/transition		X					
Family engagement					X		
Family strengthening		X	X				X
Family therapy		X				X	
Gang intervention/prevention							
Life skills development		X		X			X
Mental health services							
Mentoring	X	X	X				
Pregnancy prevention							
School/classroom environment							
Service-learning							
Structured extracurricular activities		X			X		
Substance abuse prevention							
Teen parent support							
Truancy prevention			X				
Other	X	X			X		

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Families & Schools Together	Family Matters	Fast Track	Functional Family Therapy	Good Behavior Game	Guiding Good Choices
Academic support			X		X	
Adult education						
After-school						
Behavioral intervention				X		
Career development/job training						
Case management						
Conflict resolution/anger mgmt.						
Court advocacy/probation/transition						
Family engagement						
Family strengthening	X	X	X			X
Family therapy	X			X		
Gang intervention/prevention						
Life skills development			X		X	X
Mental health services						
Mentoring						
Pregnancy prevention						
School/classroom environment			X		X	
Service-learning						
Structured extracurricular activities	X					
Substance abuse prevention		X				X
Teen parent support						
Truancy prevention						
Other	X					

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Helping the Noncompliant Child	Keepin' it REAL	LA's BEST	LifeSkills Training	Linking Interests of Families & Teachers	Midwestern Prevention Project
Academic support			X			
Adult education						
After-school			X			
Behavioral intervention						
Career development/job training						
Case management						
Conflict resolution/anger mgmt.						
Court advocacy/probation/transition						
Family engagement			X			
Family strengthening	X				X	
Family therapy						
Gang intervention/prevention						
Life skills development	X	X	X	X	X	X
Mental health services						
Mentoring						
Pregnancy prevention						
School/classroom environment						
Service-learning						
Structured extracurricular activities			X			
Substance abuse prevention		X		X		X
Teen parent support						
Truancy prevention						
Other			X			X

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Multidimensional Family Therapy	Multidimensional Treatment Foster Care	Multisystemic Therapy	Nurse-Family Partnership	Parenting Wisely	Preventive Treatment Program
Academic support						
Adult education						
After-school						
Behavioral intervention	X	X	X			
Career development/job training						
Case management		X		X		
Conflict resolution/anger mgmt.						X
Court advocacy/probation/transition	X					
Family engagement						
Family strengthening	X	X			X	X
Family therapy	X	X	X			
Gang intervention/prevention						
Life skills development					X	X
Mental health services	X					
Mentoring		X				
Pregnancy prevention						
School/classroom environment						
Service-learning						
Structured extracurricular activities	X					
Substance abuse prevention	X					
Teen parent support				X	X	
Truancy prevention						
Other		X				

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Project GRAD	Project Toward No Drug Abuse	Project Towards No Tobacco Abuse	Prolonged Exposure Therapy for PTSD	PATHS	Quantum Opportunities	Responding in Peaceful & Positive Ways
Academic support	X					X	
Adult education							
After-school						X	
Behavioral intervention				X			
Career development/job training							
Case management	X						
Conflict resolution/anger mgmt.							X
Court advocacy/probation/transition							
Family engagement					X		
Family strengthening	X						
Family therapy							
Gang intervention/prevention							
Life skills development		X	X		X	X	X
Mental health services				X			
Mentoring						X	
Pregnancy prevention							
School/classroom environment	X				X		X
Service-learning							
Structured extracurricular activities						X	
Substance abuse prevention		X	X				
Teen parent support							
Truancy prevention							
Other	X						

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Safe Dates	SAFE Children	SOAR	STEP	Strengthening Families Program	Strengthening Families Program for Parents & Youth 10-14
Academic support		X	X			
Adult education						
After-school						
Behavioral intervention						
Career development/job training						
Case management						
Conflict resolution/anger mgmt.						
Court advocacy/probation/transition						
Family engagement	X					
Family strengthening		X	X		X	X
Family therapy						
Gang intervention/prevention						
Life skills development	X		X		X	X
Mental health services						
Mentoring						
Pregnancy prevention						
School/classroom environment			X	X		
Service-learning						
Structured extracurricular activities						
Substance abuse prevention						
Teen parent support						
Truancy prevention						
Other						

Table F-9. Program Strategies of Identified Exemplary Programs (cont.)

Program Strategy	Success for All	Teen Outreach Program	The Incredible Years	Too Good for Violence	Trauma-Focused Cognitive Behavioral Therapy
Academic support	X				
Adult education					
After-school		X			
Behavioral intervention			X		X
Career development/job training					
Case management					
Conflict resolution/anger mgmt.				X	
Court advocacy/probation/transition					
Family engagement					
Family strengthening	X		X		
Family therapy					X
Gang intervention/prevention					
Life skills development		X	X	X	
Mental health services					X
Mentoring					
Pregnancy prevention		X			
School/classroom environment			X		
Service-learning		X			
Structured extracurricular activities					
Substance abuse prevention					
Teen parent support					
Truancy prevention					
Other					

Appendix G

Descriptions of Exemplary Programs

Program Name
Across Ages
http://templecil.org/Acrossageshome.htm

Overview. The Across Ages program uses older adults as mentors for youth. Originally designed solely as a school-based program, the program's design now uses a wide-ranging prevention strategy suitable for a variety of settings during both school time and out-of-school time. The program targets its supports to five domains: the individual, the family, the school, the peer group, and the community. By acting as advocates, challengers, nurturers, role models, and friends, older (age 55 and over) mentors help "at-risk" youth develop awareness, self-confidence, and skills to help resist drugs and overcome obstacles.[1]

Strategies. After-school; Family Engagement; Life Skills Development; Mentoring; Structured Extracurricular Activities

The program includes four primary activities: (1) weekly mentoring of youth by elder mentors; (2) bi-weekly youth community service activities to residents in nursing homes; (3) classroom-based life skills, problem-solving, and substance abuse curricula; and (4) monthly family, cultural, and recreational activities.[1,3]

Components. The program includes the following components: (1) infrastructure/staffing to manage program, (2) screening and training of mentors with pre-service and ongoing in-service, (3) training and orientation for all participants, (4) stipends/reimbursement for mentors, (5) written agreements between collaborating organizations, (6) minimum of 12-month duration, and (7) supervision and monitoring of mentor-youth matches.[3]

Targeted Risk Factors/Groups. Targeted youth are between the ages of 9 and 13 and reside in communities with no opportunities for positive free-time activities and few positive adult role models. They may be in kinship care due to the inability of their birth parents to care for them, often because of incarceration or substance use. They also have poor school performance and attendance.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk social behavior, (2) poor attendance, (3) low commitment to school, and (4) no extracurricular participation

Research Evidence. The Across Ages program was evaluated using a quasi-experimental design. The findings indicate that mentoring was critical to the success of the program, but all program components were critical for success. Specifically, students participating in the full program showed:[1,3,4]

- Decreased alcohol and tobacco use
- Increased school attendance
- Increased positive attitudes toward school and the future

Contact

Andrea Taylor, PhD
Across Ages Developer
Center for Intergenerational Learning
Temple University
1601 North Broad Street, USB 206
Philadelphia, PA 19122

Phone: 215.204.6708
Fax: 215.204.3195
Email: ataylor@temple.edu

Program Name
Adolescent Sexuality and Pregnancy Prevention Program (Children's Aid Society) (was Carrera's)
http://www.childrensaidsociety.org/locations_services/healthservices/teenpregnancy

Overview. Launched in 1984 in one of the Children's Aid Society's (CAS) community centers in Harlem, the program practices a holistic approach aiming to empower youth, help them develop a desire for a productive future, and aid young people in improving their sexual literacy and their understanding of the consequences of sexual activity. The program encompasses varied activities and services throughout the year and includes a "parallel family systems approach" where staff treats participating children as their own.[1]

Strategies. Academic Support; Case Management; Life Skills Development; Mental Health Services; Pregnancy Prevention; Structured Extracurricular Activities

There are five main areas of activities: (1) job club (stipends, employment experiences); (2) academic enhancement (academic assessment, tutoring, homework assistance, college exam, and entrance help); (3) family life and sex education; (4) arts; and (5) sports. Counseling and comprehensive medical and dental services are also provided.[1]

Components. The program includes: (1) full-time coordinator, full-time community organizer, and other part-time staff; (2) activities five days per week plus Saturday during school year; (3) employment assistance and education sessions in summer; (4) some social, recreational, and/or cultural trips; and (5) an average of 12 to 16 hours of programming for teens per month.[1]

Targeted Risk Factors/Groups. Diverse groups of middle and high school students nationwide have participated in the program.[1]

Relevant Impacted Risk Factors
Individual risk factors: (1) parenthood, (2) low achievement, and (3) no extracurricular participation

Research Evidence. The program was evaluated through a three-year random assignment evaluation comparing the impact of the Adolescent Sexuality and Pregnancy Prevention Program with other types of youth after-school programming. Compared to the control group, participating youth: [1]

- Had significantly lower pregnancy rates after three years
- Had significantly higher PSAT scores
- Were more likely to feel their schoolwork had improved

Contact
Dr. Michael A. Carrera Phone: 212.949.4800
The Children's Aid Society/National Training Center
350 E. 88th St.
New York, NY 10128

Program Name
Adolescent Transitions Program (ATP)
http://cfc.uoregon.edu/atp.htm

Overview. The Adolescent Transitions Program (ATP) is a multilevel, family-centered intervention targeting children who are at risk for problem behavior or substance use. Designed to address the family dynamics of adolescent problem behavior, it is delivered in the middle school setting to parents and their children. The parent-focused curriculum concentrates on developing family management skills such as making requests, using rewards, and providing reasonable consequences for rule violations. Strategies targeting parents are based on evidence about the role of coercive parenting strategies in the development of problem behaviors in youth. The program focuses on arresting the development of teen antisocial behaviors by improving parents' family management and communication skills.[4]

Strategies. Case Management; Family Strengthening; Family Therapy; Other: Family Identification Assessment

To accomplish program goals, the intervention uses a "tiered" approach with three levels of activities that build on each other: (1) a strategy targeting all parents, (2) an assessment to identify high-risk families, and (3) provision of professional support to identified high-risk families.[4] Program evaluation found that putting high-risk youth together into groups for the Teen Focus curriculum resulted in escalation of problem behaviors; therefore this activity was excluded from the above list.[5]

Components. The program includes the following components: (1) videotape examples and newsletters disseminated through the Family Resource Center, (2) family goals established at the beginning of the program, (3) weekly parent meetings for discussion and practice, (4) parent consultants, (5) individual family meetings, (6) weekly phone contacts with each family, and (7) monthly booster after group completion.[6]

Targeted Risk Factors/Groups. Targeted groups include high-risk, special needs, rural middle school youth, and their families.[7]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk social behavior and (2) misbehavior

Research Evidence. A two-year randomized clinical trial was carried out to assess the effectiveness of the parent and teen interventions. The most recent evaluation was a four-year randomized trial of the parent-focused ATP component with eight small community samples in Oregon. Relevant findings include: [4]

- Decreased total problem behavior[4]
- Reduced youth smoking behavior[6]
- Decreased antisocial behavior at school[6]

Contact
Kate Kavanaugh, Ph.D.
Child and Family Center
195 West 12th Avenue
University of Oregon
Eugene, OR 97401–3408

Phone: 503.282.3662
Fax: 503.282.3808
Email: katek@hevanet.com

Program Name
Advancement Via Individual Determination (AVID)
http://www.avidcenter.org

Overview. AVID is an in-school academic support program for middle and high schools that places underachieving high-risk students in a college-preparatory program to prepare them to go to and succeed in college. Students take rigorous courses and are provided with intensive and targeted support to ensure their success. Parents become involved at a variety of levels.[17,20,21]

Strategies. Academic Support; Family Strengthening; Structured Extracurricular Activities; Other: College Preparation

Teachers are provided professional development in the program and AVID courses, which teach students inquiry, writing, and critical thinking skills as well as study skills, library research skills, and college entrance exam preparation. Students take advanced-level college-preparatory classes and are provided assistance and tutoring during AVID courses to help them succeed in these courses. Students are also involved in AVID activities during lunch, elective periods, and after school and participate in a number of related extracurricular activities. AVID emphasizes family involvement and includes a family-training curriculum to assist parents or other family members with the college-going process.[17,20,21]

Components. Program components include: (1) AVID curriculum and program materials, (2) interdisciplinary leadership team, (3) lead teacher or coordinator, (4) professional development through weeklong initial summer training institute and monthly follow-ups, (5) student selection process, (6) college or peer tutors trained in AVID curriculum, (7) monitoring of student progress, and (8) daily AVID elective course and activities. [17,20,21]

Targeted Risk Factors/Groups. The program focuses on low-income underachieving students with a C grade point average, who have the potential to succeed in college-preparatory coursework, and are first in their families to have a chance to go to college.[20]

Relevant Impacted Risk Factors
Individual risk factor: low achievement

Family risk factor: low contact with school

Research Evidence. In longitudinal studies of schools where the project was implemented as designed, project students relative to their counterparts in comparison schools showed significant:[17,20,21]

- Improvement in academic performance
- Increases in advanced placement course enrollment and completion
- Decreases in dropout rates
- Increases in college enrollment

Contact
Mary Catherine Swanson, Founder
AVID Center
5120 Shoreham Place
Suite 120
San Diego, CA 92122

Phone: 858.623.2843
Fax: 858.623.2822
Email: avidinfo@avidcenter.org

Program Name
Athletes Training and Learning to Avoid Steroids (ATLAS)
Web site: www.atlasprogram.com

Overview. Athletes Training and Learning to Avoid Steroids (ATLAS) is a multicomponent school-based drug and alcohol prevention program for male high school athletes, 13 to 19 years old. It is designed to reduce or stop adolescent male athletes' use of anabolic steroids, sport supplements, alcohol, and illegal drugs, while improving healthy nutrition and exercise practices. The program is delivered to a school sports team, with instruction led by student-athlete peers and facilitated by coaches. ATLAS promotes healthy nutrition and exercise behaviors as alternatives to substance use (alcohol, illegal drugs, anabolic steroids, and unhealthy sport supplements).[4]

ATLAS is delivered in a classroom to an entire sports team. Students are divided into small social learning groups, with a peer (squad) leader for each group.[4]

Strategies. After-school; Family Engagement; Life Skills Development; Substance Abuse Prevention

The program includes the following activities: (1) health and substance abuse classroom curricula, (2) youth leadership development through peer squad leader positions, and (3) parent involvement through family activities.[4]

Components. Program components include: (1) committed coach-facilitator; (2) team-based presentation of the program with one peer leader for each small group; (3) interactive curricula that contains games and role-playing scenarios; (4) one-day training of coach-facilitator; and (5) program materials that include team workbooks, sports menus, training guides, a scripted instructor package, and a peer squad leader guide.[4]

Targeted Risk Factors/Groups. Male high school athletes ages 13 to 19.

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. In a randomized control design, three sequential cohorts were assessed before and one year after each athletic season and found:[3]

- Decreased new substance use
- Decreased new use of anabolic steroids
- Reduced instances of drinking and driving
- Lowered index of alcohol and drug use
- Reduced use of performance-enhancing supplements

Contact
Linn Goldberg, M.D., FACSM
Division of Health Promotion & Sports Medicine
Oregon Health & Science University, CR110
3181 SW Sam Jackson Park Road
Portland, OR 97201

Phone: 503.494.8051
Fax: 503.494.1310
E-mail: goldberl@ohsu.edu

Program Name
Big Brothers Big Sisters
http://www.bbbsa.org/site/pp.asp?c=iuJ3JgO2F&b=14576

Overview. Big Brothers/Big Sisters (BB/BS) is a federation of more than 500 agencies that serve children and adolescents. The basic concept of the BB/BS program is not to ameliorate specific problems, but to provide support in all aspects of young people's lives through a professionally supported one-to-one relationship with a caring adult. During their time together, the mentor and youth engage in developmentally appropriate activities, such as walking; visiting a library; washing the car; playing catch; attending a play, school activity, or sporting event.[4]

Individual programs are customized to local needs while a national infrastructure oversees recruitment, screening, matching, and supervision to ensure that quality mentors are selected; that good mentor-mentee matches are made; and that these relationships receive adequate staff supervision and support.[4]

Strategies. After-school; Mentoring

The program centers around adult mentoring of at-risk youth. The volunteer mentor commits substantial time to the youth, meeting for about four hours, two to four times a month, for at least one year.

Components. The success of the program depends on the following components: (1) stringent guidelines for screening mentors, (2) required orientation for all mentors, (3) an assessment process that includes interviews with parent and youth and home visit, (4) matching process to find best match for youth and mentor, and (5) supervision and support of mentoring relationship by program staff.[10,11]

Targeted Risk Factors/Groups. Youth ages 10 to 19 in low socioeconomic status families, with no more than one parent/guardian actively involved in their lives.

Relevant Impacted Risk Factors
Individual risk factors[1]: (1) high-risk social behavior, (2) low achievement, and (3) poor attendance

Family risk factors: (1) not living with both natural parents and (2) family disruption

Research Evidence. An extensive 18-month study using classical experimental design was used to evaluate the program. The researchers found among mentored youth, compared to the control group:[4]

- Reduced initiation of drug use, particularly for minority males
- Reduced initiation of alcohol use, particularly for minority females
- Reduced incidents of hitting someone
- Increased feeling of competence in school, particularly for minority females
- Improved grades, particularly for minority females
- Fewer skipped days of school, particularly for females

Contact
Thomas M. McKenna
Big Brothers Big Sisters of America
230 North 13th Street
Philadelphia, PA 19107

Phone: 215.567.7000
Fax: 215.567.0394
Email: national@bbbsa.org

Program Name
Brief Strategic Family Therapy (BSFT)
http://www.brief-strategic-family-therapy.com/bsft

Overview. Brief Strategic Family Therapy (BSFT) adopts a structural family systems framework to improve children and adolescent behavior problems by improving family interactions that are presumed to be directly related to the child's symptoms. BSFT is a short-term, problem-focused, family-based intervention with an emphasis on modifying maladaptive patterns of interactions. Therapy is based upon the assumption that each family has unique characteristics that emerge when family members interact, and that this family "system" influences all members of the family, thus the family is viewed as a whole organism. The repetitive interactions, or ways in which family members interact and behave with regard to one another can be either successful or unsuccessful. BSFT targets the interaction patterns that are directly related to the youth's behavior problems and establishes a practical plan to help the family develop more effective patterns of interaction.[10]

Strategies. Family Strengthening; Family Therapy; Life Skills Development

The program includes the following activities: (1) family therapy; (2) conflict resolution, parenting, and communication skills training for parents; (3) life and social skills, conflict resolution, and peer resistance education for youth.[3]

Components. Program components include: (1) training for counselors; (2) administrative support for families; (3) technical assistance through the program developers; (4) a therapy/treatment that uses the techniques of joining, diagnosing, and restructuring; and (5) Twelve to fifteen 60- to 90-minute sessions over three months. [3,4]

Targeted Risk Factors/Groups. BSFT targets children and adolescents between 8 and 17 years of age who are displaying or at risk for developing conduct problems such as rebelliousness, truancy, or delinquency; early substance use; problematic family relations; and association with antisocial peers.[3,10] The program has been tailored to work with inner-city, minority families, particularly African American and Hispanic families.[6]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk peer group, (3) high-risk social behavior, and (4) misbehavior

Research Evidence. Three studies tested the efficacy of BSFT in increasing family participation in therapy in randomized trials in several diverse communities. While adolescents in comparison groups showed no significant changes, BSFT adolescents showed: [3,10]

- Reduced association with antisocial peers
- Reduced substance use, particularly marijuana
- Reduced acting-out behavioral problems

Contact
Olga E. Hervis, M.S.W., L.C.S.W.
Family Therapy Training Institute of Miami
2000 South Dixie Highway
Suite 104
Miami, FL 33133

Phone: 888.527.3828
Fax: 305.661.5172
Email: ohervis@bsft-av.com

Program Name
Career Academy
http://casn.berkeley.edu/

Overview. A Career Academy is a school within a school that links students with peers, teachers, and community partners in a disciplined environment, fostering academic success and mental and emotional health. Originally created to help inner-city students stay in school and obtain meaningful occupational experience, academies and similar programs have evolved into a multifaceted, integrated approach to reducing delinquent behavior and enhancing protective factors among at-risk youths. These academies enable youths who may have trouble fitting into the larger school environment to belong to a smaller educational community and connect what they learn in school with their career aspirations and goals.[4]

Strategies. Career Development/Job Training; Mentoring; Other: Alternative Program

Each academy has a specific career focus and offers academic and career classes. They include a small cohort of students who apply in their freshman year and stay in the academy through graduation. Students also take regular high school classes.[11,18]

Components. The Career Academy approach is flexible and can be adapted to local needs but is distinguished by some core features: (1) small learning communities with 50 to 100 students per grade; (2) one core group of teachers; (3) combination of academic and vocational curricula and uses a career theme to integrate the two; (4) partnerships with local employers to build connections between school and work, recruit mentors, and offer work opportunities; (5) field trips and guest speakers; and (6) an advisory group with local employers, academy representatives, and school district officials.[4,11]

Targeted Risk Factors/Groups. Urban high school students, grades 9 to 12, particularly in those schools serving low-income communities and students at risk of school failure.[4,18]

Relevant Impacted Risk Factors
Individual risk factor: poor attendance

Research Evidence. Those with the highest fidelity to the Career Academy program design were the most effective. A number of studies have been carried out on these programs, some with longitudinal data, and most found positive results on students. One experimental study of nine programs carried out over a six-year period found that the program had the strongest impact on high-risk students. Compared to the control group, these students:[4]

- Were less likely to drop out of school
- Had better attendance
- Earned more course credits

Contact
Bernie Norton, Administrator
California Partnership Academies
High School Initiatives Office
California Department of Education
1430 N Street, Suite 4503
Sacramento, CA 95814

Phone: 916.319.0893
Fax: 916.319.0163
Email: bnorton@cde.ca.gov

Program Name
CASASTART
http://www.casacolumbia.org

Overview. CASASTART (Striving Together to Achieve Rewarding Tomorrows) is a community-based, school-centered program designed to keep high-risk 8- to 13-year-old youth free of substance abuse and criminal involvement. It seeks to improve communication between children and their families, improve parents' abilities to manage their children's behavior, and cultivate the involvement of families with schools and social service agencies. CASASTART promotes collaboration among the key stakeholders in a community or neighborhood and provides case managers to work daily with high-risk children and youth. Parents and students are both primary target populations.[3]

Strategies. Academic Support; Case Management; Court Advocacy/Probation/Transition; Family Strengthening; Family Therapy; Life Skills Development; Mentoring; Structured Extracurricular Activities; Other: Community-Enhanced Policing and Incentives

Each CASASTART program is managed locally, in deference to local culture and setting, but all programs organize around eight basic core areas: (1) community-enhanced policing, (2) case management, (3) criminal/juvenile justice intervention, (4) family services, (5) after-school and summer activities, (6) education services for targeted students, (7) mentoring, and (8) incentives. [3,4]

Components. The program (1) utilizes intensive case management to coordinate and provide services, (2) provides a wide array of services, (3) allows local control over program, (4) employs a positive youth development framework, (5) emphasizes partner involvement, and (6) keeps caseloads small for managers.

Targeted Risk Factors/Groups. This program targets students between the ages of 8 and 13 who have at least four risk factors—at least two individual school-related risk factors, one family risk factor, and one community risk factor.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk peer group, (2) high-risk social behavior, (3) retention/over-age for grade, and (4) no extracurricular participation

Research Evidence. Based on an independent evaluation using treatment and control groups, after a one-year follow-up, CASASTART youth as compared to two control groups: [3,10]

- Were less likely to associate with delinquent peers
- Were less likely to report past month use of stronger drugs
- Were less likely to report past month, past year, and lifetime use of gateway or any drugs
- Reported fewer violent crimes in the past year
- Were less likely to be involved in drug sales during the last month or in lifetime
- Were more likely to be promoted to the next grade in school

Contact
Lawrence F. Murray, Program Manager
National Center on Addiction and Substance Abuse
at Columbia University
633 Third Avenue, 19th Floor
New York, NY 10017
Phone: 212.841.5208
Fax: 212.956.8020
Email: lmurray@casacolmbia.org

Program Name
Check & Connect
http://ici.umn.edu/checkandconnect/

Overview. Check & Connect centers around increasing student school engagement through relationship building, monitoring of disengagement warning signs, interventions individualized to student needs, development of problem-solving skills, and the encouragement of participation in extracurricular activities. A key factor in the Check & Connect model is the monitor, who is responsible for assessing levels of student engagement and for implementing basic and intensive interventions.[18]

Strategies. Academic Support; Behavioral Intervention; Case Management; Family Strengthening; Mentoring; Truancy Prevention

"Checking" involves following student engagement indicators, particularly attendance, daily or weekly. "Connecting" includes two levels of student-focused interventions: (1) a basic intervention for all students that includes information about monitoring, feedback on their progress, and training in cognitive-behavioral problem-solving; and (2) intensive interventions for those students showing high risk on indicators, which may include tutoring, home-school meetings, making connections with community resources, or behavioral contracts or interventions. Relationships with families are established and family ties to school strengthened by the monitor through phone calls, meetings, and home visits.[18,21,23]

Components. Program components include: (1) program manual and staff development materials, (2) monitor serving up to 50 students, (3) monitoring sheets filled out daily or weekly, (4) data entry and analysis from monitoring sheets, (5) parent and student outreach rewards, (6) program coordinator to supervise and train monitors, and (7) regular meetings between monitor and referred students.[18,24]

Targeted Risk Factors/Groups. The program has served students in grades K-12 in urban and suburban settings and has been proven effective for students with and without disabilities, including students with learning, emotional, and behavioral disabilities. Students are referred to the program based on specific warning signs, such as attendance problems, poor performance, or emotional or behavioral problems.[18,21]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) low achievement, and (3) poor attendance

Research Evidence. Four longitudinal studies using experimental and quasi-experimental designs have been carried out on Check & Connect across all school levels. Compared to students in control or comparison groups, students served by the program showed significant: [18,21]

- Decreases in truancy
- Decreases in absenteeism
- Decreases in dropout rates
- Increases in credit accrual
- Increases in school completion

Contact
Sandra L. Christenson
University of Minnesota
Department of Educational Psychology
350 Elliott Hall
75 East River Road
Minneapolis, MN 55455

Phone: 612.624.0037
Fax: 612.624.0879
Email: chris002@umn.edu

Program Name
Children of Divorce Intervention Program
http://www.childrensinstitute.net/

Overview. The Children of Divorce Intervention Program (CODIP) is a supportive, small-group, preventive intervention designed to reduce the stress of family transitions and foster children's resilience and healthy adjustment to changes in family structure. CODIP helps children identify and express feelings, share experiences, form bonds with peers, enhance positive perceptions of self and family, and increase their capacity to cope with challenging changes associated with divorce. The program's five main goals are to:

- Foster a safe, supportive group environment
- Facilitate the identification and expression of divorce-related feelings
- Promote understanding of divorce-related concepts and clarify misconceptions
- Teach effective coping and interpersonal skills
- Enhance positive perceptions of self and family[4]

Strategies. Life Skills Development

The program is based on two central activities: (1) small support groups and (2) training in social competence.[4]

Components. CODIP includes (1) a structured, sequential, 12-to-15-session, field-tested CODIP curricula, with four variations tailored to the developmental needs and emotional reactions of diverse groups of children from kindergarten through 8th grade; and (2) implementation by mental health professionals.

Targeted Risk Factors/Groups. The program is designed for children, ages 5 to 13, in foster care and those whose parents are separated or divorced.

Relevant Impacted Risk Factors
Individual risk factor: misbehavior

Family risk factors: (1) not living with both natural parents and (2) family disruption

Research Evidence. In an evaluation with a quasi-experimental design, children participating in the program demonstrated significantly greater gains in adjustment at the end of the program and at the time of the follow-up two years later than those in a comparison group.[4] Teachers rated CODIP children as having: [3]

- Better overall school adjustment
- Greater improvements in their ability to follow rules
- Greater improvements in their ability to get along well with peers

Contact
JoAnne Pedro–Carroll, Ph.D.
The Children's Institute
274 North Goodman, Suite D103
Rochester, NY 14607

Phone: 585.295.1000
Fax: 585.295.1090
Email: jpcarroll@childrensinstitute.net

Program Name
Coca-Cola Valued Youth Program (VYP)
http://www.idra.org/ccvyp/index.htm

Overview. The Coca-Cola Valued Youth Program (VYP) is an international cross-age tutoring program in which secondary at-risk students work with at-risk elementary students. The program philosophy revolves around seven key tenets that emphasize the valuing of students, such as that all students can learn, that the school values all students, and that all students can actively contribute to their own education and to the education of others. Based on this philosophy, the program strives to improve the self-esteem and academic skills of at-risk students to help reduce their dropout rates. This is accomplished through the tutoring experience along with the provision of assistance on basic academic skills; the elimination of other factors that may influence them to drop out, such as misbehavior or truancy; and the formation of home-school ties. [16,17,18]

Strategies. Academic Support; Family Engagement; Structured Extracurricular Activities; Other: Motivational/Professional Guest Speakers

VYP incorporates tutoring classes, tutoring sessions with tutees using a program–designed curricular framework, educational field trips, role models, and student recognition. There are also parent meetings and sessions and training and enrichment activities for staff. [16,17,18]

Components. The program includes: (1) stipends for tutors, (2) a minimum of 30 class sessions for tutors, (3) weekly four-hour tutoring sessions, (4) implementation by existing school staff, (5) requirement for 10 training and technical assistance days, and (6) implementation guides for staff and for family involvement activies.[18,20]

Targeted Risk Factors/Groups. Students recruited as tutors are at-risk middle and high school students who may also be from low socioeconomic families and/or have been retained at some point. The program has been successfully implemented with limited English-proficient students.[18]

Relevant Impacted Risk Factors
Individual risk factors: (1) low achievement, (2) lack of effort, (3) low commitment to school, and (4) no extracurricular participation

Research Evidence. Some elements critical to program success were fidelity to program components, a minimum age of tutors, and a four-grade difference between tutors and tutees. The primary program evaluation used a quasi-experimental design with a matched comparison group for up to two years after the program was implemented. Compared to the comparison group, student participants had:[17,18]

- Significantly higher reading grades
- Significantly better attitudes toward school (including liking school and commitment to schoolwork)
- Lower dropout rates

Contact
Linda Cantu
Division of Professional Development
5835 Callaghan Road, Suite 350
San Antonio, TX 78228

Phone: 210.444.1710
Fax: 210.444.1714
Email: linda.cantu@idra.org

Program Name
Cognitive Behavioral Therapy for Child Sexual Abuse
(also referred to as Trauma-Focused Cognitive Behavioral Therapy)

Overview. Cognitive Behavioral Therapy for Child Sexual Abuse (CBT-CSA) is a treatment approach designed to help children and adolescents who have suffered sexual abuse overcome posttraumatic stress disorder (PTSD), depression, and other behavioral and emotional difficulties. The program helps children to:

- Learn about child sexual abuse as well as healthy sexuality
- Therapeutically process traumatic memories
- Overcome problematic thoughts, feelings, and behaviors
- Develop effective coping and body safety skills[3]

Strategies. Behavioral Intervention; Family Therapy

The program emphasizes the support and involvement of nonoffending parents or primary caretakers and encourages effective parent-child communication. Cognitive behavioral methods are used to help parents learn to cope with their own distress and respond effectively to their children's behavioral difficulties. This CBT approach is suitable for all clinical and community-based mental health settings and its effectiveness has been documented for both individual and group therapy formats.[3]

Components. The program includes (1) treatment by therapist in medical or community setting; (2) parallel sessions with the child and his or her non-offending parent(s) and two joint parent-child sessions; (3) 12-session duration; (4) either individual or group therapy format; and (5) book, audiotape, children's book, and training by program developers.[3]

Targeted Risk Factors/Groups. CBT-CSA is designed for children and adolescents 3 to 18 years old who have experienced sexual abuse and are exhibiting posttraumatic stress, depression, and other abuse-related difficulties (e.g., age-inappropriate sexual behaviors, problematic fears, social isolation).[3]

Impacted Relevant Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) high-risk social behavior

Research Evidence. Seven treatment outcome studies (two pre- and post-test designs and five randomized control trials) have documented the efficacy of this treatment approach. Children who participated with their non-offending parents demonstrated greater improvements than the control group, and improvements were maintained over a two-year follow-up period: [3]

- Reduction in children's acting-out behaviors

Contact

Esther Deblinger, Ph.D.
Clinical Director, Center for Children's Support
Associate Professor of Psychiatry
University of Medicine & Dentistry of New Jersey
School of Osteopathic Medicine
42 East Laurel Road, Suite 1100B
Stratford, NJ 08084

Phone: 856.566.7036
Fax: 856.566.6108
E-mail: deblines@umdnj.edu

Program Name
Coping Power

Overview. The Coping Power Program is a multicomponent preventive intervention for aggressive boys that uses the contextual sociocognitive model as its conceptual framework. The sociocognitive model concentrates on the contextual parenting processes and on children's sequential cognitive processing. It posits that aggressive children have cognitive distortions at the appraisal stage of sociocognitive processing because of their difficulties in encoding incoming social information and in accurately interpreting social events and others' intentions. These children also have cognitive deficiencies at the problem solution stage of sociocognitive processing; they tend to generate maladaptive solutions for perceived problems. The contextual sociocognitive model also emphasizes parenting processes in the development and escalation of problem behaviors. [3,4]

Strategies. Behavioral Intervention; Conflict Resolution/Anger Management; Family Strengthening; Life Skills Development

Primary program activities include (1) small group sessions for targeted boys and (2) group training for their parents. [3,4]

Components. The program includes (1) 15-month intervention; (2) 33 one-hour sessions for targeted boys, with periodic individual sessions; (3) 16 parent group sessions, with periodic home visits and individual sessions; (4) two co-leaders for child and parent sessions; and (5) sessions carried out in school setting.[3,4]

Targeted Risk Factors/Groups. The target group is aggressive boys ages 9 to 11 and their families.[4]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk social behavior, and (3) misbehavior

Research Evidence. The evaluation used a classical experimental design on two cohorts of boys with a one-year follow-up assessment two summers after intervention. Boys who had participated in the program along with their parents at the time of the follow-up as compared to the control group had:[4]

- Lower rates of self-reported covert delinquent behavior (theft, fraud, property damage)
- Significant and continuing improvement in school behavioral problems, particularly for White boys

Contact
John E. Lochman
Department of Psychology
University of Alabama
383 Gordon Palmer Hall, P.O. Box 870348
Tuscaloosa, AL 35487

Phone: 205.348.7678
Fax: 205.348.8648
Email: jlocjman@gp.as.ua.edu

Program Name
Families and Schools Together (FAST)
http://www.wcer.wisc.edu/fast/

Overview. Families And Schools Together (FAST) is a collaborative, multifamily, group program that combines concepts and practices of community organizing with effective clinical techniques based on family therapy and play therapy. The program works to intervene early to help at-risk youths succeed in the community, at home, and in school and thus avoid problems such as adolescent delinquency, violence, and school failure and dropout. FAST offers youths structured opportunities for relationship-building interactions with the primary caretaking parent, other family members, other families and peers, and offers parents training and coached practice in family management and communication skills.[4]

Strategies. Family Strengthening; Family Therapy; Structured Extracurricular Activities; Other: Middle School Youth Groups

The program centers around multifamily support group meetings that are sequential and include meals, structured family activities, parent mutual-support time, and parent-child play therapy. The first eight weekly meetings are facilitated by a trained local team. Monthly reunion meetings are led by families with team support. For middle school students, there is a youth group.[3,4]

Components. The primary components of FAST include: (1) parent identification and recruitment through home visits, (2) eight to 10 multifamily group sessions with five to 25 families, (3) FAST curriculum that has 40 percent required and 60 percent locally adapted content, (4) ongoing monthly reunions over a 21-month period, (5) required pre- and post-tests, (6) required four-day training over a four-month period; (7) monitoring by FAST Center staff, and (8) 12-week middle school youth group with locally developed content.[3]

Targeted Risk Factors/Groups. Developed for diverse groups of at-risk children, 4 to 12 years of age, FAST has been implemented in middle schools, in preschools, and with teen mothers with infants.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) low achievement, (2) no extracurricular participation, (3) misbehavior, and (4) early aggression

Family risk factors: (1) low education level of parents and (2) low contact with school

Research Evidence. Four studies carried out by three groups of independent researchers on FAST using experimental designs showed significant improvements for both parents and children after the program and up to two years later. Specifically, studies showed, as compared to control groups:[3,6]

- Improvement in conduct disorder, anxiety, and attention span in classrooms
- Reductions after two years in aggression
- Improvements in academic performance
- Increased parent involvement in school
- Increased pursuit of adult education by parents

Contact
Lynn McDonald, Ph.D., MSW
Wisconsin Center for Education Research
1025 West Johnson Street
University of Wisconsin—Madison
Madison, WI 53706

Phone: 608.263.9476
Fax: 608.253.6338
Email: mrmcdona@facstaff.wisc.edu

Program Name
Family Matters
http://www.sph.unc.edu/familymatters/introduction.htm

Overview. Family Matters is a home-based program designed to prevent tobacco and alcohol use in adolescents. The program is delivered through four booklets mailed to the home and follow-up telephone calls to parents by health educators. The booklets contain lessons and activities designed to motivate families to participate in the program and to encourage families to consider characteristics related to adolescent substance use. Booklet content includes communication skills, parenting styles, attachment and time together, educational encouragement, conflict resolution, availability of tobacco and alcohol in the home, family rules about child use of tobacco and alcohol, and insights into peer and media influences.[3] Each booklet contains information based on behavioral science theory and research and includes participant activities.[4]

Strategies. Family Strengthening; Substance Abuse Prevention

The program centers around two primary activities: (1) self-administered, task-oriented adult family member and adolescent training through booklets that cover substance use, family communication, and conflict resolution as well as peer-resistance skills for adolescents; and (2) follow-up calls with the mother or mother surrogate by health educators after the mailing of each booklet.[3,4]

Components. The program includes: (1) four mailed booklets containing reading material and activities; (2) participation incentives; (3) trained and supervised volunteer or paid health educators, such as college students or school nurses, to call families; (4) involvement of all adult family members; (5) a *Health Educators Manual* with health educator scripts, protocols, and forms for each unit; and (6) an optional four- to eight-hour training session for health educators and program managers on location.[3,4]

Targeted Risk Factors/Groups. The program was designed for use with any family with children 12 to 14 years old in which at least one adult can read English.[3]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. Family Matters was evaluated through a randomized experimental design with a sample of parent–child pairs from throughout the United States. Twelve months after the program, adolescents in families that received Family Matters compared to controls were:

- Less likely to have smoked
- Less likely to have used alcohol

Contact
Karl E. Bauman, Ph.D.
University of North Carolina
116 Nolen Lane
Chapel Hill, NC 27516

Phone: 919.929.6572
Email: kbauman@mindspring.com

Project Name
FAST Track
http://www.fasttrackproject.org/

Overview. FAST Track is a comprehensive and long-term prevention program that aims to prevent chronic and severe conduct problems for high-risk children, with intensive interventions at school entry and from elementary to middle school. It is based on the view that antisocial behavior stems from the interaction of multiple influences, and it includes the school, the home, and the individual in its intervention. FAST Track's main goals are to increase communication and bonds among these three domains; enhance children's social, cognitive, and problem-solving skills; improve peer relationships; and ultimately decrease disruptive behavior in the home and school.[10]

Strategies. Academic Support; Family Strengthening; Life Skills Development; School/Classroom Environment

The curriculum used in the primary intervention helps children develop emotional awareness skills, self-control, and problem-solving skills; foster a positive peer climate; and improve teachers' classroom management skills. A selected intervention for high-risk children includes parent training, child social-skills training, and academic tutoring.[4,10]

Components. FAST Track includes: (1) modified PATHS curriculum for all students in grades one to five; (2) multi-stage screening to identify high-risk children; and (3) parent training groups, home visits, peer-pairing activities, reading tutoring three times per week, and social skills building for targeted children.[4,10]

Targeted Risk Factors/Groups. The primary intervention is designed for all elementary school-aged children in a school setting. The selected intervention is specifically targeted to children identified in kindergarten for disruptive behavior and poor peer relations.[9,10]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) misbehavior, and (3) early aggression

Family risk factor: low contact with school

Research Evidence. FAST Track has been evaluated through a randomized clinical trial involving 50 elementary schools in four U.S. urban and rural locations with data collected post-intervention in the 1st grade and at the end of the 2nd and 3rd grades. Compared to control groups, intervention children had:[4,9]

- Significantly lower rates of special education assignment
- Significantly lower serious conduct problems
- Improvement in aggression and oppositional behavior

Parents participating in the program, compared to the control group, showed: [4,10,13]

- More maternal involvement in school activities

Contact

Mark T. Greenberg, Ph.D.
Prevention Research Center for the Promotion of Human Development
S112B Henderson Building South
Pennsylvania State University
University Park, PA 16802–6504

Phone: 814.863.0112
Fax: 814.865.2530
Email: prevention@psu.edu

Program Name
Functional Family Therapy
http://www.fftinc.com/

Overview. Functional Family Therapy (FFT) is an empirically grounded, family-based intervention program for acting-out youth. A major goal of Functional Family Therapy is to improve family communication and supportiveness while decreasing the intense negativity so often characteristic of these families. Other goals include helping family members adopt positive solutions to family problems and developing positive behavior change and parenting strategies. Although originally designed to treat middle-class families with delinquent and pre-delinquent youth, the program has recently included poor, multiethnic, multicultural populations, with very serious problems such as conduct disorder, adolescent drug abuse, and violence.[6]

Strategies. Behavioral Intervention; Family Therapy

The program is conducted in four phases by family therapists working with each individual family in a clinical or home setting.[6]

Components. FFT includes: (1) an average of 8 to 12 or up to 30 sessions for more severe problem situations; (2) sessions spread over a three-month period; (3) flexible delivery of service by one- and two person teams; (4) a three-day clinical training for all FFT therapists, with follow-up visits, technical assistance, and supervision; and (5) four phases, each containing assessment, techniques of intervention, and therapist goals.[4,6,10]

Targeted Risk Factors/Groups. Targeted youth are aged 11 to 18 and at risk for and/or presenting with delinquency, violence, substance use, Conduct Disorder, Oppositional Defiant Disorder, or Disruptive Behavior Disorder.[10]

Relevant Impacted Risk Factor
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) high-risk social behavior

Research Evidence. Several evaluation studies of the program were conducted, using matched or randomly assigned control/comparison group designs on diverse populations and included one-, two-, three-, and five-year follow-up periods. These studies demonstrated that, compared to no treatment or other types of interventions, FFT:[4]

- Effectively treated and prevented further incidence of the presenting problem, including adolescents with Conduct Disorder, Oppositional Defiant Disorder, Disruptive Behavior Disorder, and alcohol and other drug abuse disorders; and who were delinquent and/or violent [10]
- Reduced adolescent re-arrests[4]
- Significantly reduced recidivism for a wide range of juvenile offense patterns[4]

Contact
James F. Alexander
Department of Psychology
380 South 1350 East, #502
University of Utah
Salt Lake City, UT 84112

Phone: 801.581.6538
Fax: 801.581.5841
Email: jfafft@psych.utah.edu

Program Name
Good Behavior Game

Overview. The Good Behavior Game (GBG) is a classroom, team-based, behavior modification program designed to improve children's adaptation to classroom rules/authority, improve aggressive/disruptive classroom behavior, and prevent later criminality. It is implemented when children are in the early elementary grades in order to provide students with the skills they need to respond to later, possibly negative life experiences and societal influences.[9,10] The GBG utilizes a group-based approach in which students are assigned reading units and cannot advance until a majority of the class has mastered the previous set of learning objectives. It aims to decrease early aggression and shy behaviors to prevent later criminality. GBG improves teachers' ability to define tasks, set rules, and discipline students, and allows students to work in teams in which each individual is responsible to the rest of the group.[3]

Strategies. Academic Support; Life Skills Development; School/Classroom Environment

The program is primarily a classroom management activity that helps children to adapt to school rules while also improving reading achievement through group-based reading mastery.[9]

Components. The intervention is conducted by teachers (1) over the course of grades one and two with all children and (2) three times per week.

Targeted Risk Factors/Groups. The program is for all early elementary children, ages 6 to 10, with the most significant results found for children demonstrating early high-risk behavior.[10]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk social behavior, (2) misbehavior, and (3) early aggression

Research Evidence. Two evaluations have been carried out on the program in a large urban area. In the most recent study, five years after the intervention (6th grade), researchers found for participating children, as compared to control group children:[4]

- Significantly fewer meeting the diagnostic criteria for conduct disorder
- Fewer receiving or having been judged to need mental health services
- Fewer suspensions from school in the last year
- Significantly better ratings on conduct problems from their teachers
- Lower levels of aggression among males who were rated highest for aggression in 1st grade

Contact

Sheppard G. Kellam, M.D.
AIR Center for Integrating Education and Prevention Research in Schools
921 East Fort Avenue, Suite 225
Baltimore, MD 21230

Phone: 410.347.8551
Fax: 410.347.8559
Email: skellam@air.org

Program Name
Guiding Good Choices (formerly Preparing for the Drug-Free Years)
http://www.channing-bete.com/positiveyouth/pages/FTC/FTC-GGC.html

Overview. Guiding Good Choices (GGC) is a multimedia drug prevention program (part of the Families That Care series) that gives parents of children in grades four through eight the knowledge and skills needed to guide their children through early adolescence. It is based on the social development model and addresses preventing substance abuse in the family, setting clear family expectations regarding drugs and alcohol, avoiding trouble, managing family conflict, and strengthening family bonds. The sessions are interactive and skill-based, with opportunities for parents to practice new skills and receive feedback from workshop leaders and other parents.[3]

Strategies. Family Strengthening; Life Skills Development; Substance Abuse Prevention

Primary program activities include training for parents to improve parenting skills, particularly those related to substance use, and parent-child bonding and training for children to build peer resistance skills.[10]

Components. Components of the GGC include: (1) flexibility to be implemented in a variety of settings; (2) five weekly sessions; (3) two co-leaders; (4) one required session for children and parents; (5) four sessions for parents only; (6) three-day on-site training for co-leaders; (7) curriculum kit for co-leaders, video-based vignettes parent handouts, and a family guide.[3,4,12]

Targeted Risk Factors/Groups. GGC is designed for families from various ethnic and socioeconomic backgrounds with children 8 to 14 years of age.[3]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. The curriculum has been tested in various controlled trials in diverse settings, including a comprehensive, randomized clinical trial. Over a four-year period following the program, GGC youth, compared to a control group, had:[3]

- Significantly lower rates of increase in initiation of drinking to drunkenness
- Significantly lower rates of increase in initiation of marijuana use
- Less drinking in the past month

Contact

Prevention Science Customer Service Representative
Channing Bete Company
One Community Place
South Deerfield, MA 01373–0200

Phone: 877.896.8532
Fax: 800.499.6464
Email: PrevSci@channing-bete.com

Program Name
Helping the Noncompliant Child (HNC)

Overview. Helping the Noncompliant Child (HNC) is a parent-skills training program aimed at teaching parents how to obtain compliance in their children to reduce conduct problems and prevent subsequent juvenile delinquency. The program, designed for parents and their children, is based on the theoretical assumption that noncompliance in children is a keystone behavior for the development of conduct problems, and faulty parent-child interactions play a significant part in the development and maintenance of these problems.[3]

Parents attend sessions with their children, and trainers teach the parents skills necessary for increasing compliance in their children. The intervention generally takes place in a therapeutic playroom and parents learn skills through instructions, modeling, role-playing, and practice with their children. Sessions are typically conducted with individual families rather than in groups.[3,4]

Strategies. Family Strengthening; Life Skills Development

The HNC program is centered around a trainer working with parents and their child on the mastery of a series of parenting skills over an average of 10 sessions.[4]

Components. The HNC program includes the following components: (1) five to 15 weekly, 60- to 90-minute sessions for parents and children; (2) single trainer for each family; (3) minimum of two days of training required, with additional technical assistance and follow-up available; and (4) materials include a trainer's manual, training videotape, and self-help book for parents.[3,6]

Targeted Risk Factors/Groups. The program is designed for parents and their three- to eight-year-old children with noncompliance and/or other conduct problems but also has been used with other high-risk populations of children and parents.[6]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk social behavior, (3) low achievement, and (4) early aggression

Research Evidence. Maintenance or long-term effects of HNC have been documented in several quasi-experimental studies, with follow-up assessments ranging from two months to 14 years after the end of treatment. Relative to a nonreferred "normal" comparison group, the young adults (ages 17 to 22) who had participated in the program as children reported:[4]

- Similar levels of delinquency
- Similar levels of various types of psychopathology
- Similar levels of drug use
- Similar levels of academic progress
- Decrease in other overt conduct problems, such as aggression

Contact

Robert J. McMahon, Ph.D.
Department of Psychology, P.O. Box 351525
University of Washington
Seattle, WA 98195–1525

Phone: 206.543.5136
Fax: 206.685.3157
Email: mcmahon@u.washington.edu

Program Name

Keepin' it REAL (Refuse, Explain, Avoid, Leave)
http://keepinitreal.asu.edu/

Overview. The Keepin' it REAL (Refuse, Explain, Avoid, Leave) program is a video-enhanced intervention that uses a culturally-grounded resiliency model that incorporates traditional ethnic values and practices that protect against drug use. A school-based prevention program for elementary, middle, and early high school students, Keepin' it REAL is based on previous work that demonstrates that teaching communication and life skills can combat negative peer and other influences. Keepin' it REAL extends resistance and life-skills models by using a culturally based narrative and performance framework to: (1) enhance anti-drug norms and attitudes; and (2) facilitate the development of risk assessment, decision making, and resistance skills. Distinct Mexican American, African American, and multicultural versions of Keepin' it REAL are available.[3]

Strategies. Life Skills Development; Substance Abuse Prevention

Keepin' it REAL utilizes a classroom curriculum accompanied by a collection of youth-produced videos that demonstrate resistance strategies and illustrate the skills taught in the lessons.[3]

Components. The program relies heavily on the acceptance and commitment of school leadership and staff to the importance of culturally relevant materials and approaches. Components include: (1) 10 45-50-minute lessons; (2) teacher's manual, videos, worksheets, and instructional aids in English and Spanish; (3) recommended follow-up booster session; and (4) optional media/publicity campaign.

Targeted Risk Factors/Groups. The Keepin' it REAL program targets urban youth ranging in age from 10 to 17.

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk peer group and (2) high-risk social behavior

Research Evidence. The initial REAL evaluation was conducted over 48 months using a randomized block assignment with sample middle schools. Compared to students in control schools at a two-year follow-up, students who participated in the program:[3]

- Retained unfavorable attitudes against someone their age using substances
- Significantly reduced marijuana, tobacco, and alcohol use, especially alcohol
- Improved their resistance skills to using alcohol, cigarettes, and marijuana

Contact

Patricia Dustman, Ed.D.
College of Public Programs, School of Social Work
PO Box 873711
Arizona State University
Tempe, AZ 85287-3711
Phone: 480.965.4699
Email: patricia.dustman@asu.edu

Program Name
LifeSkills™ Training (LST)
http://www.lifeskillstraining.com/

Overview. LifeSkills™ Training (LST) is a three-year classroom-based tobacco, alcohol, and drug abuse prevention program for upper elementary and middle/junior high school students. LST is designed to prevent early stages of substance use, particularly occasional or experimental use. It provides students with information and drug-resistance skills, teaches general self-management and social skills, and helps to reduce or prevent a variety of health-risk behaviors. Skills are taught in a series of classroom sessions using training techniques such as instruction, demonstration, feedback, reinforcement, and practice.[3,4,10]

Strategies. Life Skills Development; Substance Abuse Prevention

LST centers around a self-contained, structured curriculum that can be taught in classrooms by teachers or in after-school programs or other community settings. Although it primarily targets substance use, it also includes optional violence prevention units that can be implemented in the middle school program.[3]

Components
Successful program implementation requires the following: (1) for full impact, three-year implementation with primary sessions in year one and booster sessions for years two and three; (2) LST-trained provider recommended (teacher, counselor, or health professional); (3) a curriculum set consisting of a teacher's manual, student guide, and relaxation tape; and (4) provider training available and recommended.[3]

Targeted Risk Factors/Groups
LST is intended for diverse youth, ages 8 to 14, who have not yet initiated substance use.[3]

Relevant Impacted Risk Factor
Individual risk factor: high-risk social behavior

Research Evidence. The results of over a dozen large-scale, long-term evaluations, experimental and quasi-experimental, consistently show that the LST program significantly reduces tobacco, alcohol, and marijuana use. These studies further show that the program works with a diverse range of adolescents; produces results that are long-lasting; and is effective when taught by teachers, peer leaders, or health professionals.[10] Stronger effects were found for students in high-implementation schools.[4]

Long-term follow-up results observed six years following the intervention show that LST students, compared to control groups, had:[10]

- Significantly lower tobacco, alcohol, and marijuana use
- Lower multiple drug use
- Lower pack-a-day smoking
- Decreased use of inhalants, narcotics, and hallucinogens

Contact

Elizabeth Gronewold
National Health Promotion Associates, Inc.
711 Westchester Avenue
White Plains, NY 10604
Phone: 1.800.293.4969
914.421.2525
Fax: 914.683.6998
Email: lstinfo@nhpanet.com

Program Name

Linking the Interests of Families and Teachers (LIFT)
http://www.oslc.org/

Overview. Linking the Interests of Families and Teachers (LIFT) is a school-based intervention for the prevention of conduct problems such as aggressive and antisocial behavior, involvement with delinquent peers, and drug/alcohol use. LIFT was designed to decrease the likelihood of two major factors that put children at risk for subsequent antisocial behavior and delinquency: (1) aggressive and other socially incompetent behaviors with teachers and peers at school; and (2) ineffective parenting, including inconsistent and inappropriate discipline and lax supervision. The main goal of LIFT is to decrease children's antisocial behavior and increase their pro-social behavior.[3,10]

Strategies. Family Strengthening; Life Skills Development

LIFT has three main activities: (1) in-class social skills training curriculum, (2) a playground version of the Good Behavior Game to encourage positive peer relations; and (3) small-group parent discipline and child monitoring training.[3]

Components. Program components include: (1) 20 one-hour in-class sessions for children across a 10-week period, including lecture, role plays, review, and awards; (2) 6 two-hour parent training sessions held concurrently with child sessions; and (3) a "LIFT" line, comprised of a phone and answering machine in each classroom to facilitate home-school communication.[3,4,10]

Targeted Risk Factors/Groups. LIFT is designed for all 1st and 5th grade elementary school boys and girls and their families living in at-risk neighborhoods characterized by high rates of juvenile delinquency.[10]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk peer group, (3) high-risk social behavior, (4) misbehavior, and (5) early aggression

Relevant Impacted Risk Factors
LIFT was evaluated using a randomized intervention trial using pre-test and post-test assessments with yearly follow-ups through interviews, questionnaires, observations, and school and court records.[4] LIFT had the greatest impact on those with the highest initial aggressive behavior. Post-intervention results revealed:[10]

- A significant decrease in observed aggressive behavior on the LIFT playgrounds, especially for those rated most aggressive at pre-test
- A significant increase in positive classroom behavior

At a three-year follow-up, compared to the control group, 5th grade participants were:[3]

- Less likely to affiliate with misbehaving peers
- Less likely to be involved in patterned alcohol use
- Less likely to have tried marijuana
- Less likely to be arrested by the age of 14

Contact

John B. Reid, Ph.D.
Oregon Social Learning Center
160 East Fourth Avenue
Eugene, OR 97401

Phone: 541.485.2711
Fax: 541.485.7087
Email: johnr@oslc.org

Program Name
Los Angeles' Better Educated Students for Tomorrow (LA's BEST)
http://www.lasbest.org

Overview. The LA's Better Educated Students for Tomorrow (LA's BEST) Program is an after-school education and enrichment program created as a partnership between the City of Los Angeles, the Los Angeles Unified School District, and the private sector. The program has five goals: (1) a safe environment, (2) enhanced opportunities through the integration of an educational support structure, (3) educational enrichment activities to supplement and deepen the regular program, (4) recreational activities, and (5) interpersonal skills and self-esteem development.[1]

Strategies. Academic Support; After-school; Family Engagement; Life Skills Development; Structured Extracurricular Activities; Other: Safe Environment

LA's BEST students receive tutoring in a variety of subjects; participate in library, recreational, cultural, and enrichment activities; take occasional field trips; and participate in other activities in a safe environment. The program sponsors family-oriented events with activities and parent workshops.[1,15]

Components. LA's BEST: (1) is available from the end of the school day until 6 p.m., five days per week; (2) is offered at no cost; (3) admits students on a first-come, first-served basis: (4) requires students to maintain minimum attendance; and (5) is staffed by a full-time program director, playground workers, small-group leaders, high school student workers, and volunteers.[1,15]

Targeted Risk Factors/Groups. LA's BEST schools are inner-city elementary schools with low academic achievement in low socioeconomic and high gang or crime rate neighborhoods.[1]

Relevant Impacted Risk Factors.
Individual risk factors: (1) low achievement, (2) poor attendance, (3) low educational expectations, (4) low commitment to school, and (5) no extracurricular participation

Research Evidence. Two quasi-experimental studies, one following students for two years and the other for four years, have been conducted on the impact of LA's BEST on participants. Dosage of the program was key to successful outcomes. Those students with the highest participation levels (more than 75 percent of days present), as compared to the comparison group:[1]

- Had fewer absences
- Had higher achievement on standardized tests
- Liked school more
- Had higher expectations of how far they would go in school

Contact
Carla Sanger
President and CEO
LA's BEST
Office of the Mayor
200 N. Spring Street, M-120
Los Angeles, CA 90012

Phone: 213.978.0801
Fax: 213.978.0800
Email: Carla.Sanger@lacity.org

Program Name
Midwestern Prevention Project (Project STAR)

Overview. The Midwestern Prevention Project (MPP), also known as Project STAR, is a comprehensive, community-based, multifaceted program for adolescent drug abuse prevention that targets the entire population of middle school students. Its ultimate goal is to prevent or reduce gateway substance use (alcohol, tobacco, and marijuana). MPP strives to help youths recognize the tremendous social pressures to use drugs and provides skills in how to avoid drug use. The project first offers a series of classroom-based sessions during middle school that continues with efforts for parents and the community, and through the media.[3,4]

Strategies. Life Skills Development; Substance Abuse Prevention; Other: Health Policy; Other: Community Awareness/Mobilization

MPP disseminates this message through a system of well-coordinated, community-wide activities introduced in sequence at a rate of one a year, including mass media programming; a school program; continuing school boosters; a parent education and organization program; community organization and training; and local health policy change regarding tobacco, alcohol, and other drugs.[4]

Components. MPP utilizes: (1) student peer leaders for the school program, (2) a parent-principal policy committee, and (3) regular meetings of respective deliverers.[10]

Targeted Risk Factors/Groups. The MPP bridges the transition from early adolescence to middle through late adolescence. Since early adolescence is the first risk period for gateway drug use (i.e., alcohol, cigarettes, and marijuana), programming is initiated with whole populations of 6th or 7th grade students (ages 10-12).[10]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. The program was evaluated through longitudinal quasi-experimental studies in several locations. Results demonstrated for program youths, compared with control youths, included the following:[4,10]

- Reductions in smoking and alcohol and marijuana use in middle school
- Significant reductions in daily smoking and in marijuana use in high school
- Some effects on daily smoking, heavy marijuana use, and some hard drug use through early adulthood (age 23)

Contact

Mary Ann Pentz, Ph.D., or Karen Bernstein, M.P.H.
Institute for Prevention Research
1000 South Fremont Avenue, Unit 8
University of Southern California
Alhambra, CA 91803

Phone: 626.457.6687
Fax: 626.457.6695
Email: pentz@usc.edu

Program Name
Multidimensional Family Therapy (MDFT)
http://phs.os.dhhs.gov/ophs/BestPractice/mdft_miami.htm

Overview. Multidimensional Family Therapy (MDFT) is a comprehensive and flexible family-based program for substance-abusing adolescents or those at high risk for substance use and other problem behaviors. MDFT is a multicomponent and multilevel intervention system.[3] There is also a substance abuse prevention version of MDFT for early adolescents.[6] Interventions are solution-focused and strive to obtain immediate and practical impact on the youth's everyday environment. MDFT has been designed, adapted, and tested in a variety of different versions—as a standalone or part of a broader program.[3,6]

Strategies. Behavioral Intervention; Court Advocacy/Probation/Transition; Family Strengthening; Family Therapy; Mental Health Services; Structured Extracurricular Activities; Substance Abuse Prevention

The MDFT approach has intervention activities to address each of four areas: (1) the adolescent, (2) the parent, (3) the family, and (4) the extrafamilial (school, neighborhood, legal, social services, and medical).[3]

Components. Required program components include: (1) treatment length of four to six months, (2) supervisors trained and skilled in the MDFT approach, (3) six to eight cases per therapist, (4) seven-month MDFT training of therapists, (5) administrative support, (6) capacity to do in-home sessions, (7) cell phones and provisions for team travel, (8) urine test kits, and (9) videotaping equipment.[3]

Targeted Risk Factors/Groups. The MDFT model has been applied in a variety of community-based clinical settings targeting a range of populations. Participating youth between the ages of 11 and 18 met diagnostic criteria for substance abuse disorder as well as other problems, such as delinquency or depression.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk peer group, (2) high-risk social behavior, (3) low achievement, (4) lack of effort, (5) no extracurricular participation, and (6) misbehavior

Research Evidence. Studies support the effectiveness of the MDFT treatment system among diverse samples of adolescents, including several randomized controlled clinical trials. Studies found that, compared to other types of treatment, MDFT significantly: [3]

- Decreased substance abuse, with gains maintained up to one year post-treatment
- Decreased delinquent behavior, arrests, and placement on probation
- Reduced affiliation with delinquent and drug-using peers
- Decreased disruptive school behavior over comparison youth
- Increased rate of passing grades over comparison youth

When used for prevention, compared with controls, adolescents who received MDFT exhibited: [4]

- Increased bonding to school
- Decreased association with antisocial peers

Contact
Howard A. Liddle
Department of Epidemiology and Public Health,
University of Miami, School of Medicine
1400 10th Avenue NW, 11th Floor, Mail Stop M–711
Miami, FL 33136

Phone: 305.243.6434
Fax: 305.243.3651
Email: hliddle@med.miami.edu

Program Name
Multidimensional Treatment Foster Care (MTFC)
http://www.mtfc.com/

Overview. Multidimensional Treatment Foster Care (MTFC) is a cost-effective alternative to group or residential treatment, incarceration, and hospitalization for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency. MFTC is based on the Social Learning Theory model. Community families are recruited, trained, and closely supervised to provide MTFC-placed adolescents with treatment and intensive supervision at home, in school, and in the community; clear and consistent limits with follow-through on consequences; positive reinforcement for appropriate behavior; a relationship with a mentoring adult; and separation from delinquent peers.[10]

Strategies. Behavioral Intervention; Case Management; Family Strengthening; Family Therapy; Mentoring; Other

The program places adolescents in a family setting for six to nine months and emphasizes behavior management methods to provide youth with a structured and therapeutic living environment. Training and follow-up support are provided for MTFC parents and family therapy provided for the youth's biological or adoptive family.[3,10]

Components. MTFC includes the following components: (1) case manager; (2) weekly supervision and support meetings for MTFC parents; (3) skill-focused individual treatment for youths; (4) weekly family therapy for biological parents; (5) frequent contact between participating youths and their biological/adoptive family members; (6) close monitoring of the youngsters' progress in school; (7) coordination with probation/parole officers; and (8) psychiatric consultation/medication management, as needed.[4]

Target Risk Factors/Groups. The program targets teenagers, ages 11-18, with histories of chronic and severe criminal behavior at risk of incarceration.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) high-risk social behavior

Research Evidence. Evaluation results showed that MTFC was not only feasible but also, compared with alternative residential treatment models, cost-effective and led to better outcomes for children and families.[4] One clinical trial of MFTC that included several follow-ups over a two-year period, demonstrated that, compared to control group youth, program youth:[6,10]

- Spent fewer days incarcerated at 12-month follow-up
- Had significantly fewer subsequent arrests
- Had significantly less hard drug use in the follow-up period

Contact
Patricia Chamberlain, Ph.D., Director
Oregon Social Learning Center
160 East Fourth Street
Eugene, OR 97401

Phone: 541.485.2711
Fax: 541.485.7087
Email: Pattic@oslc.org

Program Name
Multisystemic Therapy (MST)
http://www.mstservices.com/

Overview. Multisystemic Therapy (MST) is a family-focused, home-based program that focuses on chronically violent, substance-abusing juvenile offenders at high risk for out-of-home placement. It is an intensive family- and community-based treatment that addresses the multiple determinants of serious antisocial behavior in juvenile offenders. It seeks to empower parents with the skills and resources needed to independently address the difficulties that arise in raising teenagers and to empower youth to cope with family, peer, school, and neighborhood problems. It places special attention on factors in the adolescent and family's social networks that are linked with antisocial behavior. The goal is to empower both family members and youth to address and cope with problems. [3]

Strategies. Behavioral Intervention; Family Therapy

Therapist teams provide services in the home and school, and the family takes the lead in setting treatment goals. Parents collaborate with the therapist on the best strategies to use in improving youth behavior. Intervention activities are integrated into a social ecological context and include strategic family therapy, structural family therapy, behavioral parent training, and cognitive behavior therapies.[3,4,10]

Components. The average treatment involves about 60 hours of contact during a four-month period as well as (1) a team of three to five full-time clinical staff, (2) small caseloads of four to six families, (3) co-planning with community members and social service agencies, (4) services provided 24/7 at convenient times for family, and (5) commitment to MST supervision and training protocols.[3,4]

Targeted Risk Factors/Groups. MST targets chronic, violent, or substance abusing male or female juvenile offenders, ages 12 to 17, at high risk of out-of-home placement, and the offenders' families.[10] The typical program youth has one or more arrests for violent behavior.[4]

Relevant Impacted Risk Factor
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) high-risk social behavior

Research Evidence. The effectiveness of MST has been supported by several controlled, random-assignment evaluations, where youth were randomly assigned to either MST or a control group receiving other services. MST was effective across youth with varied demographic characteristics and pre-existing problems. The long-term effectiveness of MST was found in youth and families two and four years after completing the program. Compared to a control group receiving other services, MST youth:[3,4]

- Were significantly less likely to use substances
- Had fewer arrests or re-arrests for all types of offenses
- Engaged in less aggression with peers
- Were less likely to be involved in criminal activity

Contact
Marshall E. Swenson
MST Services
710 J. Dodds Boulevard
Mount Pleasant, SC 29464

Phone: 843.856.8226
Fax: 843.856.8227
Email: marshall.swenson@mstservices.com

Program Name
Nurse-Family Partnership (NFP)
http://www.nursefamilypartnership.org/index.cfm?fuseaction=home

Overview. Nurse–Family Partnership (NFP) provides first-time, low-income mothers of any age with comprehensive home visitation services from public health nurses during pregnancy and the first two years after the birth of the child. Program delivery is primarily through home visitation, but also depends on a variety of other services to achieve outcomes. NFP nurses work intensively with these mothers to improve maternal, prenatal, and early childhood health and well-being with the expectation that this intervention will help achieve long-term improvements in the lives of at-risk families.[4,10]

Strategies. Case Management; Teen Parent Support

The intervention process is designed to improve five broad domains of family functioning: (1) parental roles; (2) family and friend support; (3) health (physical and mental); (4) home and neighborhood environment; and (5) major life events (e.g., pregnancy planning, education, employment).[4]

Components. The program is highly structured and is accessible only through an intensive application process for materials, resources, and training support. Applicants are expected to implement with very high fidelity and: (1) show commitment and resources to sustain the program over at least three years, (2) use one registered nurse for every 25 families, (3) follow program guidelines, (4) use a visit schedule that follows developmental stages of pregnancy, (5) use a data-tracking system designed for program, and (6) have nurses participate in training and technical assistance provided by program developers.[3]

Target Risk Factors/Groups. This therapeutic program is developed for first-time, low-income expectant mothers.[3] Although the primary client is the first-time mother, ultimately her baby and all the members of her support system (e.g., friends, parents, boyfriend, child's father) get involved.[4]

Relevant Impacted Risk Factors
Individual risk factors: (1) parenthood and (2) high-risk social behavior

Family risk factors: (1) low socioeconomic status and (2) large number of siblings

Research Evidence. NFP produced consistent benefits for low-income mothers and their children, in contrast to the comparison groups, in three experimental studies, including one 15-year follow-up:[3,4]

- Improved mother's prenatal health and decreased preterm births
- Increased mother's participation in the workforce
- Reduced rates of subsequent pregnancy and greater intervals between births
- Reduced maternal behavioral problems attributable to substance use
- Reduced arrests among the mothers
- Resulted in fewer arrests and convictions among the 15-year-old adolescents
- Reduced cigarette smoking by the 15-year-olds

Contact
Nurse–Family Partnership National Office
1900 Grant Street, Suite 400
Denver, CO 80203

Phone: 866.864.5226
Fax: 303.327.4260
Email: info@nursefamilypartnership.org

Program Name
Parenting Wisely
http://www.familyworksinc.com/

Overview. Parenting Wisely (PW) is a self-administered, computer-based program that teaches parents and their children important skills to enhance relationships and decrease conflict through behavior management and support. The program concentrates on families with parents who do not usually seek or complete mental health or parent education treatment for children's problem behaviors. Single-parent families and stepfamilies with children who exhibit behavior problems constitute most of the families targeted. The program enhances child adjustment and has the potential to reduce delinquency, substance abuse, and involvement with the juvenile justice system. In addition, it seeks to improve problem solving, parent-school communication, school attendance, and grades while reducing disciplinary infractions. PW has been tested with diverse families in rural and urban areas.[4]

Strategies. Family Strengthening; Life Skills Development; Teen Parent Support

The program uses an interactive CD–ROM in which parents view video scenes of common family problems. For each problem, parents choose a solution, watch it enacted, and listen to a critique. Parents can use it alone, in a group, with their children, or with a practitioner. The video program covers communication skills, problem-solving skills, speaking respectfully, assertive discipline, reinforcement, chore compliance, homework compliance, supervision of children hanging out with peers who are a bad influence, stepfamily problems, single-parent issues, and violence. PW is designed to be used by parents totally unfamiliar with computers as well as those with experience and can be used by teen parents.[3,4,6]

Components. The program includes: (1) nine case studies; (2) several administration possibilities—two to three 3-hour sessions for individuals or six to ten 1-hour sessions in a group format; (3) a non-interactive video version; (4) periodic upgrades for purchase; (5) a guide that supplies all of the information necessary to fully implement the program; and (6) a required parent workbook.[3,4]

Targeted Risk Factors/Groups. The program was designed for low-income, at-risk families who have children, ages six to 18, with mild to serious behavior problems.[3]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Family risk factors: (1) not living with both natural parents, (2) family disruption, and (3) lack of conversation about school

Research Evidence. Thirteen evaluations have been conducted on PW across a variety of settings. Five studies involved random assignment of parents to treatment and control groups. The program was found to:[4]

- Significantly reduce problem conduct/behavior in children
- Improve parental involvement with children and their schoolwork

Contact
Donald A. Gordon, Ph.D.
Family Works, Inc.
34 West State Street, Room 135B, Unit 8
Athens, OH 45701–3751

Phone: 866.234.9473
Fax: 541.482.2829
Email: familyworks@familyworksinc.com

Program Name
Preventive Treatment Program (Montreal Longitudinal Experimental Study)
http://www.gripinfo.ca/Grip/Public/www/

Overview. The Preventive Treatment Program (also known as the Montreal Longitudinal Experimental Study) is a multicomponent program designed to prevent antisocial behavior of boys who display early problem behavior. It provides training for both parents and youth to decrease delinquency, substance use, and gang involvement. Parent training is targeted at improving parental behavior (e.g. improve monitoring and positive reinforcement; teach effective, nonpunitive discipline; improve coping with crisis); and child social skills training in order to reduce aggressive behavior in the children.[4,9,10]

Strategies. Conflict Resolution/Anger Management; Family Strengthening; Life Skills Development

Parent training is combined with family consultant assistance for generalization to home situations. The training for boys is implemented in small groups containing both disruptive and nondisruptive boys, and utilizes coaching, peer modeling, self-instruction, reinforcement contingency, and role playing.[10]

Components. The program is administered over two years and includes: (1) an average of 17 sessions for parents, (2) 19 sessions for boys that include positive role model peers, (3) family consultant follow-up with parents, and (4) some contact between family consultant and boys' teachers.[4,9]

Targeted Risk Factors/Groups. The intervention has been successfully implemented for White, Canadian-born males, ages seven to nine, from low socioeconomic, low education families and who were assessed as having high levels of disruptive and/or aggressive behavior in kindergarten.[9,10]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk peer group, (3) high-risk social behavior, (4) retention/over-age for grade, and (5) misbehavior

Research Evidence. There were no program effects until one year after the intervention and changes were not evident until three years post-intervention and became increasingly significant over time. At age 12, three years after the intervention, treated boys, compared to untreated boys, were:[4,9,10]

- Less likely to report trespassing or theft
- Rated by teachers as fighting less
- Less likely to be held back in school
- Less likely to be placed in special education classes
- Less likely to have highly aggressive best friends

At age 15, those receiving the intervention were less likely than untreated boys to report:

- Gang involvement
- Having been drunk or taken drugs in the past 12 months
- Committing delinquent acts (stealing, vandalism, drug use)
- Having friends arrested by the police

Contact
Richard E. Tremblay, Ph.D.
University of Montreal, GRIP
3050 Edouard Monpetit
Montreal, Quebec H3T 1J7

Phone: 514.343.6963
Fax: 514.343.6962
Email: grip@umontreal.ca

Program Name
Project Graduation Really Achieves Dreams (Project GRAD)
http://www.projectgrad.org/

Overview. Project GRAD is a comprehensive dropout prevention and college attendance program that works with high schools and their feeder schools to implement multiple reforms. Interventions are implemented that focus on classroom management, student performance, parent involvement, and graduation and college acceptance rates. Annual college scholarships are provided to students who graduate on time, complete a set number of math courses, maintain a minimum grade point average, and attend at least two program-sponsored summer institutes.[20]

Strategies. Academic Support; Case Management; Family Strengthening; School/Classroom Environment; Other: College Preparation and Scholarships

There are five core initiatives to Project GRAD: (1) a math initiative to supplement existing curricula for grades K-8; (2) a reading and literacy initiative that focuses on reading success at the elementary level but extends through middle school for those not reading at grade level; (3) a classroom management initiative that builds a partnership among students, teachers, and parents to ensure instructional and discipline consistency; (4) a social services and parental involvement initiative that provides dropout prevention, social services, and referrals to community resources for at-risk children and works to enhance communication between teachers and parents, get parents actively involved in the school, offer parent courses, and promote college awareness; and (5) a program at the high schools, including a scholarship coordinator, summer institutes, and efforts to increase advanced placement courses.[20,25]

Components. Program components include: (1) district Project GRAD facilitator; (2) initial teacher training and ongoing material and curricular support by facilitators for teachers and administrators in all feeder schools; (3) social worker/project manager at each school; (4) ongoing data tracking and evaluation; (5) shared decision-making committees (principals, teachers, students, parents, and community leaders) to manage project; (6) high school scholarship coordinator; and (7) annual $1,000 college scholarships for qualifying students.[20,25]

Targeted Risk Factors/Groups. Project GRAD serves inner-city school feeder patterns with primarily low-income, minority students.[20]

Relevant Impacted Risk Factors
Individual risk factors: (1) low achievement and (2) misbehavior

Family risk factor: low contact with school

Research Evidence. Several studies using quasi-experimental designs have evaluated the impact of Project GRAD on student outcomes. Participating students, as compared to those in comparison schools, have shown significant:[17,20]

- Gains in math and reading test scores
- Decreases in discipline referrals
- Gains in college attendance

Contact
Tycene Edd
Project GRAD USA
1100 Louisiana, Suite 450
Houston, TX 77002

Phone: 713.816.0404
Fax: 713.986.0470
Email: tedd@projectgradusa.org

Program Name
Project Toward No Drug Abuse (Project TND)
http://www.cceanet.org/Research/Sussman/tnd.htm

Overview. Project Towards No Drug Abuse (TND) is an interactive school-based program designed to help high school youth resist substance use. The program teaches participants increased coping and self-control skills by making them aware of misleading information that facilitates drug use. The program motivates them not to use drugs, to develop skills that help them bond to lower-risk environments, to appreciate the physical consequences that drug use may have on their own lives, to become aware of cessation strategies, and to develop decision-making skills to make a commitment to not use drugs.[3,4]

Strategies. Life Skills Development; Substance Abuse Prevention

The program can be used in a self-instruction format or run by a health educator or classroom teacher. The program lessons contain motivational activities, social skills training, and decision-making components that are delivered through group discussions, games, role-playing exercises, videos, and student worksheets.[4]

Components. The program (1) consists of twelve 40- to 50-minute in-class lessons; (2) should be implemented over a four-week period; (3) can be delivered to classes of 8-40 students; (4) has recommended teacher training; and (5) includes an implementation manual, video, student workbook, and optional instructional materials kit.[3,4]

Targeted Risk Factors/Groups. Although the program was originally designed for high-risk youth in alternative high schools, it has been revised to target all high school youths, ages 14–19.[4]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. TND has been evaluated numerous times with both alternative and mainstream high schools, primarily using a randomized block design to assign schools. For TND to show significant one-year effects, all 12 sessions should be implemented. In one study, health educator-led programs had significant results while those using self-instruction did not.[3,4]

After a one-year follow-up, results for both alternative and mainstream high schools revealed that, compared to those in control groups, students receiving TND,:[3,4,10]

- Had significant reductions in hard drug use
- Had significant reductions in marijuana use
- Had significant reductions in alcohol use
- Had significantly lower risk of victimization
- Were less likely to carry weapons

Contact
Steve Sussman, Ph.D., FAAHB
Institute for Health Promotion and Disease Prevention
University of Southern California, Department of Preventive Medicine
1000 South Fremont Avenue, Unit 8, Suite 4124
Alhambra, CA 91803
Phone: 626.457.6635
Fax: 626.457.4012
Email: sussma@hsc.usc.edu

Program Name
Project Towards No Tobacco Use (Project TNT)

Overview. Project Towards No Tobacco Use (Project TNT) is a comprehensive, classroom-based curriculum designed to prevent or reduce tobacco use in youth. It is designed to counteract several different causes of tobacco use simultaneously, because the behavior is determined by multiple causes. Project TNT works well for a wide variety of youth who may have different risk factors influencing their tobacco use. It teaches awareness of misleading social information; develops skills that counteract social pressure to use tobacco; and provides information about the physical consequences of tobacco use, such as addiction.[3]

Strategies. Life Skills Development; Substance Abuse Prevention

Project TNT is primarily a curriculum implemented by teachers in classroom settings. The curriculum uses games, homework assignments, role-plays, discussions, student worksheets, activism letter writing, and a videotaping project.[3,4]

Components. Any school or school district can implement Project TNT through trained teachers in standard size classes. The program includes: (1) a one- to two-day teacher training session; (2) ten 40- to 50-minute core lessons to be delivered during a two- to four-week period; (3) an implementation manual, two videos, a student workbook, and optional materials kit; and (4) two booster sessions to be delivered one year after core lessons in a two-day sequence.

Targeted Risk Factors/Groups. The program, originally developed with 7th graders, has been successfully implemented with youth in 5th through 10th grades, 10 to 15 years of age.[3,4]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. Five conditions (four programs and the "usual school health education" control) were contrasted using a randomized experiment involving 7th grade students from 48 junior high schools. The four programs included three with single program components and one, Project TNT, which included all three components. To determine outcomes, one- and two-year follow-ups were conducted through an in-class, self-report questionnaire after the initial intervention was delivered. Outcomes for Project TNT students as compared to the other programs included: [3,4]

- Reduced initiation of cigarette smoking
- Reduced initiation of smokeless tobacco use
- Reduced weekly or more frequent cigarette smoking
- Eliminated weekly or more frequent smokeless tobacco use

Contact
Steve Sussman, Ph.D. FAAHB
Institute for Health Promotion and Disease Prevention
1000 South Fremont Avenue, Unit 8 Building A-4, Room 6129
Department of Preventive Medicine, USC
Alhambra, CA 91803
Phone: 626.457.6635
Fax: 626.457.4012
Email: ssussma@hsc.usc.edu

Program Name
Prolonged Exposure Therapy for Posttraumatic Stress Disorders
http://www.med.upenn.edu/ctsa/

Overview.
Prolonged Exposure (PE) therapy is a cognitive-behavioral treatment program for individuals suffering from post-traumatic stress disorder (PTSD). The program consists of a course of individual therapy designed to help clients process traumatic events and thus reduce trauma-induced psychological disturbances. Twenty years of research have shown that PE significantly reduces the symptoms of PTSD, depression, anger, and general anxiety.[3]

Strategies. Behavioral Intervention; Mental Health Services

The PE Therapy treatment program can be used in a variety of clinical settings, including community mental health outpatient clinics, rape counseling centers, private practice offices, and inpatient units. Treatment is individual and includes: (1) psychoeducation on reactions to trauma, (2) imaginal exposure (emotional reliving), and (3) in-vivo exposure.[3,4]

Components. The standard treatment program requires (1) training for therapists (e.g., social workers, psychologists) through a four- to five-day workshop on the treatment; (2) use of the PE manual, which specifies the agenda and treatment procedures for each session; (3) nine to 12 once- or twice-weekly 90-minute sessions; (4) ongoing supervision by program developers; and (5) access to equipment for video or audio recording of sessions for supervision and client use.[3]

Targeted Risk Factors/Groups. Although PE was designed for adults who have experienced either single or multiple/continuous traumas and suffer from significant PTSD symptoms, the program has been successfully used with girls, starting at age 15, with symptoms related to sexual abuse.[3]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. The effectiveness of PE therapy has been established through single-case reports, quasi-experimental designs, and, above all, many randomized control studies. One controlled study, for example, compared the effects of several programs on female victims of sexual and nonsexual assaults. Compared to the other treatments, PE therapy clients continued to improve one year after treatment termination while those treated in other programs did not. Specifically, PE therapy has been found to result in:[3,4]

- Improvements in and/or elimination of PTSD symptoms
- Improved daily functioning, including substantial reduction in depression, anxiety, and anger

Contact
Edna B. Foa, Ph.D.
Director, Center for the Treatment and Study of Anxiety
Department of Psychiatry
3535 Market Street, Suite 600 North
University of Pennsylvania
Philadelphia, PA 19104

Phone: 215.746.3327
Fax: 215.746.3311
Email: foa@mail.med.upenn.edu

Program Name
Promoting Alternative Thinking Strategies (PATHS)
http://www.channing-bete.com/prevention-programs/

Overview. The Promoting Alternative Thinking Strategies (PATHS) curriculum is a multiyear, comprehensive program that promotes emotional and social competencies through cognitive-skill building and reduces aggression and behavior problems in elementary school-aged children, while simultaneously enhancing the educational process in the classroom. With an emphasis on teaching students to identify, understand, and self-regulate their emotions, PATHS also adds components for parents and school contexts beyond the classroom to increase generalizability of the students' newly acquired skills.[3,4,9]

Strategies. Family Engagement; Life Skills Development; School/Classroom Environment

The curriculum is designed as a universal prevention model and should be initiated at the entrance to school and continued throughout the elementary grades. The program concentrates primarily on school and classroom settings, with academics embedded in the lessons, but also includes information and activities for use with parents.[3,4,9,10]

Components. To achieve desired outcomes, PATHS should be implemented with (1) teachers trained through two-day training; (2) district or school-based support; (3) all classrooms in all elementary grades, K-6; (4) full 131-lesson curriculum; (5) 20-30 minute segments per day, three to five times per week; (6) an on-site coordinator; (7) instructor's and curriculum manuals; and (8) parent letters, handouts, and home activities.[3,4,10]

Targeted Risk Factors/Groups. Originally developed for use with deaf children, PATHS has been adapted for use with elementary aged (five to 10 years of age) regular education and special needs children (deaf, hearing-impaired, learning-disabled, language-delayed, behaviorally and emotionally impaired, and mildly mentally delayed children). [3,9,10]

Relevant Impacted Risk Factors
Individual risk factors: (1) misbehavior and (2) early aggression

Research Evidence. There have been numerous randomized, controlled studies demonstrating the effectiveness of the PATHS curriculum with various populations (including regular education, special education, and deaf youth). Program fidelity and quality of implementation appear to have strongly influenced the success of the PATHS curriculum. Results from one- and two-year follow-up evaluations have demonstrated significant improvements for program youth (regular education, special needs, and deaf), compared to control youth, in the following areas:[4,10,13]

- Increased the use of effective conflict-resolution strategies
- Reduced school conduct problems, including aggression, for regular and special-needs students
- Reduced anxiety, depression, and sadness for special-needs students

Contact
Mark Greenberg, Ph.D.
Prevention Research Center
109 Henderson Building South
Pennsylvania State University
University Park, PA 16802–6504

Phone: 814.863.0112
Fax: 814.865.2530
Email: mxg47@psu.edu

Program Name
Quantum Opportunities
http://www.oicofamerica.org/onlprog.html

Overview. The Quantum Opportunities Program (QOP) is designed to help at-risk youth make a "quantum leap" up the ladder of opportunity through academic, developmental, and community service activities, coupled with a sustained relationship with a peer group and a caring adult, offered to them over their four years of high school. The QOP framework strives to compensate for some of the deficits found in poverty areas by (a) compensating for both the perceived and real lack of opportunities, which are characteristic of disadvantaged neighborhoods; (b) providing interactions and involvement with persons who hold pro-social values and beliefs; (c) enhancing participants' academic and functional skills to equip them for success; and (d) reinforcing positive achievements and actions.[1]

Strategies. Academic Support; After-school; Life Skills Development; Mentoring; Structured Extracurricular Activities; Other: Planning for Future

QOP is focused around education activities (tutoring, homework assistance, computer-assisted instruction) and development activities (life and family skills, planning for the future, including postsecondary education and jobs). Young people are provided with adult mentors and community agencies work with schools to provide service opportunities after school.[11]

Components. The program begins in 9th grade and continues through high school and includes: (1) financial incentives for youth for participation; (2) mentors who serve as role models, tutors, and case managers to refer youth to needed services; (3) year-round services, regardless of student's school enrollment status; (4) goal of annual participation rate of 250 hours; (5) staff bonuses tied to youth participation rates; and (6) supportive services, such as snacks and transportation.[1]

Targeted Risk Factors/Groups. QOP students selected are disadvantaged youth, selected randomly from families receiving public assistance, or youth with low grades in high schools with high dropout rates and include primarily ethnic minorities.[1,11]

Relevant Impacted Risk Factors
Individual risk factors: (1) parenthood, (2) low achievement, (3) low educational expectations, and (4) no extracurricular participation.

Research Evidence. Two multisite experimental studies were carried out from 9th grade through expected time of graduation and statistically significant results were consistently found at one site in one of the studies. The key at this site was dosage and fidelity to the program model. Compared to the control group, youth at this site,: [1,11,13]

- Became teen parents less often
- Had higher academic and functional skills
- Were more likely to graduate
- Had higher educational expectations and were more likely to attend postsecondary schools

Contact
C. Benjamin Lattimore
Opportunities Industrialization Centers of America, Inc.
1415 Broad Street
Philadelphia, PA 19122
Phone: 215.236.4500
Fax: 215.236.7480
Email: oicofamerica@org

Program Name
Responding in Peaceful and Positive Ways (RIPP)
http://www.has.vcu.edu/RIPP/

Overview. Responding in Peaceful and Positive Ways (RIPP) is a three-year, school-based, violence prevention program designed to provide students in middle and junior high schools with conflict resolution strategies and skills. The goal of the program is to promote nonviolence in the school setting by teaching students more effective ways of dealing with interpersonal conflicts than fighting, and by lowering the number of violent incidents in school settings. Students learn to apply critical thinking skills and personal management strategies to personal health and well-being issues.[3]

Strategies. Conflict Resolution/Anger Management; Life Skills Development; School/Classroom Environment

The problem-solving model is the backbone of the cumulative curriculum and uses experiential learning, guided discussions, and opportunities for peer mediation. It is typically taught during the academic subjects of social studies, health, and/or science. A trained RIPP facilitator teaches the curriculum, serves as an adult role model for pro-social attitudes and behavior, promotes the program schoolwide, and supervises the peer mediation program.[3,4]

Components. The program components include: (1) school commitment to program; (2) required trained (five-day workshop), full-time RIPP facilitator; (3) ongoing technical assistance; (4) peer mediation program (with optional training); (5) teacher's manual, student workbooks, materials on nonviolence; (6) 25 50-minute sessions in year one, 12 50-minute sessions in years two and three; and (7) program implementation options for slower program introduction.[3]

Targeted Risk Factors/Groups. The program was developed and initially delivered to a primarily urban, African-American middle or junior high (grades 6-9) population but has been successfully implemented in similar grades with ethnically diverse, multilingual populations in rural and suburban settings.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) misbehavior and (2) early aggression

Research Evidence. Achievement of program outcomes requires a three-year complete implementation of the program. Three published studies have examined the effectiveness of RIPP using random assignment of students or classes. Follow-up data ranged from one to two years post-intervention. In comparison with control students, students who participated in RIPP have shown:[3,4]

- Fewer school disciplinary code violations for violent behaviors
- Fewer in-school suspensions
- Fewer fight-related injuries
- Lower frequencies of aggression

Contact
Wendy Bauers Northup
Prevention Opportunities, LLC
12458 Ashland Vineyard Lane
Ashland, VA 23005

Phone: 804.261.8547
Fax: 804.261.8580
Email: nor@co.henrico.va.us

Program Name
Safe Dates
http://www.hazelden.org/

Overview. Safe Dates is a school-based middle and high school program designed to stop or prevent the initiation of psychological, physical, and sexual abuse on dates or between individuals involved in a dating relationship. The program goals are to change adolescent dating violence norms, change adolescent gender-role norms, improve conflict resolution skills for dating relationships, promote victims' and perpetrators' beliefs in the need for help and awareness of community resources for dating violence, promote help-seeking by victims and perpetrators, and improve peer help-giving skills. The Safe Dates program can stand alone or fit easily within a health education, family, or general life-skills curriculum. Because dating violence is often tied to substance abuse, Safe Dates also may be used with drug and alcohol prevention and general violence prevention programs. Safe Dates could also be part of a school's support group or counseling program, after-school, or enrichment program.[3,4]

Strategies. Family Engagement; Life Skills Development

The Safe Dates program is a dating violence prevention curriculum that also includes a student-developed play script, a poster contest, and activities to involve parents. Schools are encouraged to collaborate with local domestic violence crisis centers and to implement schoolwide awareness campaigns.[3,4]

Components. The Safe Dates program includes: (1) nine 50-minute daily or weekly sessions; (2) a 45-minute play script; (3) a poster contest at the end of session nine; (4) implementation manual with student handouts; (5) parent letter and brochure; and (6) optional teacher training.[3,4]

Targeted Risk Factors/Groups. The program is intended for diverse populations of male and female middle and high school students, aged 12 to 18. The program is available in Spanish and provides suggestions on how to adapt the content to address specific cultural issues around dating and dating violence.[3,4]

Relevant Impacted Risk Factors
Individual risk factor: high-risk social behavior

Research Evidence. To achieve outcomes, all nine sessions of the curriculum, the play, and the poster contest should be completed. Safe Dates was evaluated using a pre-test, post-test control group experimental design in schools across one county at one-month and one-year follow-ups up to four years out from treatment. At the one-month follow-up, compared to students in control schools, Safe Dates students were:[3]

- Less likely to perpetrate psychological, sexual, and physical violence against their current dating partners

Four years after the treatment, compared to students in control schools, Safe Dates students were significantly:[3]

- Less likely to perpetrate psychological, sexual, and physical violence against their current dating partners
- Less likely to experience sexual victimization

Contact
Roxanne Schladweiler
Hazelden Publishing and Education Services
15251 Pleasant Valley Road
Center City, MN 55012
Phone: 651.213.4022
Fax: 651.213.4590
Email: rschladweiler@hazelden.org

Project Name
Schools and Families Educating Children (SAFE Children)

Overview. Schools and Families Educating Children (SAFE Children) is a community- and school-based program that helps families manage educational and child development in inner-city communities where children are at high risk for substance abuse and other problem behaviors. The program aims to help children make the transition into 1st grade, have a successful first year, and set a strong base for the future. The program, based on a developmental-ecological perspective, focuses on enhancing parenting and family management skills, strengthening the relationship between the families and the schools, and improving reading skills in the children.[3,4]

Strategies. Academic Support; Family Strengthening

Parents participate in weekly family group meetings to build support networks among parents, develop parenting skills, and obtain a better understanding of schools and how they work. Children receive intensive one-on-one tutoring in the phonics-based program that teaches the basic skills of reading and participate in literacy activities.[3]

Components. SAFE Children includes: (1) 20 weekly multiple-family group meetings (four to six families per group); (2) two 30-minute per week, one-on-one tutoring sessions for children; (3) required program manual and materials; (4) required staff training and ongoing contact with developers; and (5) required staff: site coordinator, family group leaders, tutors, and intervention leaders.[3]

Targeted Risk Factors/Groups. Families with children entering 1st grade, ages four to six, and living in inner-city, high-risk neighborhoods are targeted. Program materials are available in Spanish and English.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) low achievement and (2) early aggression

Family risk factor: low contact with school

Research Evidence. Training staff and fidelity to the program model are required to achieve reported results. The SAFE Children project was evaluated in a fully randomized trial across eight inner-city schools in one city over a 24-month period. After six months, compared to a control group, participating children had:[3,4]

- Greater improvement in academic achievement
- Reading scores approximating the national average
- Improvements in aggression and social competence

After six months, compared to a control group, participating parents showed:[4]

- Better parental involvement in school

Contact
Patrick Tolan, Ph.D.
Institute for Juvenile Research
840 South Wood Street
Department of Psychiatry
Chicago, IL 60612–7347

Phone: 312.413.1893
Fax: 312.413.1703
Email: Tolan@uic.edu

Program Name
SOAR (Skills, Opportunities, and Recognition) (formerly Seattle Social Development Project)
http://depts.washington.edu/sdrg/

Overview. The Skills, Opportunity, and Recognition (SOAR) program has its roots in the social development model, which posits that positive social bonds can reduce antisocial behavior and delinquency. It is a multidimensional intervention designed for the general population and high-risk children who are attending elementary or middle school. The program seeks to decrease juveniles' problem behaviors by working with children and their parents and teachers. It intervenes early in children's development to increase pro-social bonds, to strengthen attachment and commitment to schools, and to decrease delinquency. [4]

Strategies. Academic Support; Family Strengthening; Life Skills Development; School/Classroom Environment

A SOAR school provides social skills training for elementary students, training for their teachers to improve methods of classroom management, and instruction on providing developmentally sequenced parenting workshops for parents.[3]

Components. SOAR concentrates heavily on a combination of teacher training and parent training. Teachers receive instruction that emphasizes (1) proactive classroom management, (2) interactive teaching, and (3) cooperative learning. Parents receive optional training programs throughout their children's schooling, including: (1) seven sessions while child is in 1st and 2nd grades, (2) four sessions while child is in 2nd and 3rd grades, and (3) five sessions while child is in 5th and 6th grades.[3,10]

Targeted Risk Factors/Groups. SOAR can be used for the general population as well as high-risk children (those with low socioeconomic status and low school achievement) attending elementary and middle school, ages five to 14.[4,10]

Relevant Impacted Risk Factors
Individual risk factors: (1) parenthood, (2) high-risk social behavior, (3) low achievement, (4) lack of effort, and (5) misbehavior

Research Evidence. Results of an ongoing, 20-year quasi-experimental study in Seattle, Washington, indicate that only the intervention that began in the early grades had long-term impact on post-graduation outcomes. At the age 18 follow-up, full intervention students, compared to comparison groups, showed statistically significant:[4,9,13]

- Improvement in commitment and attachment to school
- Improvement in self-reported achievement
- Improvement in self-reported involvement in school misbehavior
- Lower likelihood of committing violent delinquent acts
- Lower likelihood of heavy alcohol use in the past year
- Lower likelihood of having been or having gotten someone pregnant

Contact
J. David Hawkins, Ph.D.
Social Development Research Group
University of Washington
9275 Third Avenue NE, Suite 401
Seattle, WA 98115

Phone: 206.685.1997
Fax: 206.543.4507
Email: sdrg@u.washington.edu

Program Name
School Transitional Environment Program (STEP)

Overview. The School Transitional Environmental Program (STEP) is based on the transitional life events model, which theorizes that stressful life events, such as making transitions between schools, places children at risk for maladaptive behavior. Research has shown that, for many students, changing schools can lead to a host of academic, behavioral, and social problems and may lead to dropping out of school. STEP redesigns the high school environment to make school transitions less threatening for students and aims to increase peer and teacher support, decrease student anonymity, increase student accountability, and enhance students' abilities to learn school rules and exceptions.[4,10]

Strategies. School/Classroom Environment

STEP creates small "cohorts" of transitioning students who remain together for core classes and homeroom, creates smaller "learning communities" within the larger school, and redefines the role of the homeroom teacher and counselors to provide greater support to students.[9]

Components. Key program components include: (1) subgroups of 65-100 STEP students take all primary classes together, (2) STEP classrooms are located close together, (3) homeroom teachers serve as the primary link between student and school and school and home, (4) students receive individual 15- to 20-minute monthly counseling sessions, and (5) STEP teachers meet once or twice weekly.[11]

Targeted Risk Factors/Groups. The program targets students in transition from elementary and middle schools who are in large urban junior high and high schools with multiple feeders serving predominantly non-White lower income youths.[4]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk social behavior, (2) low achievement, (3) poor attendance, (4) low educational expectations, (5) low commitment to school, and (6) misbehavior.

Research Evidence. OJJDP—Several quasi-experimental studies have examined the STEP program, including high- and low-risk schools. STEP has been found to be more effective than programs targeting transitional life events through individual skill building and has been demonstrated effective at both middle and high school transitions.[9]

Long-term follow-up indicated that STEP students, compared to controls, had: [4,10,13]

- More positive feelings about the school environment
- Higher grades
- Fewer absences
- Fewer increases in substance abuse and delinquent acts
- Less teacher-reported behavior problems
- Higher academic expectations
- Lower dropout rates

Contact
Dr. Robert D. Felner
School of Education
University of Rhode Island
705 Chafee Hall
Kingston, RI 02881

Phone: 401.874.2564
Fax: 401.874.5471
Email: rfelner@uri.edu

Program Name
Strengthening Families Program
http://www.strengtheningfamiliesprogram.org/index.html

Overview. The Strengthening Families Program (SFP) is a family therapy program that involves weekly skill-building sessions for elementary school children and their families. The program uses family systems and cognitive behavioral approaches to increase resilience and reduce risk factors. It seeks to improve family relationships, parenting skills, and youth's social and life skills. Topics in the parental section include setting rules, nurturing, monitoring compliance, and applying appropriate discipline. Youth sessions concentrate on setting goals, dealing with stress and emotions, communication skills, responsible behavior, and how to deal with peer pressure.[3,4]

Strategies. Family Strengthening; Life Skills Development

Parents and children work separately in training sessions and then participate together in a session practicing the skills they learned earlier. SFP has been successfully implemented in a variety of settings: schools, churches, mental health centers, housing projects, homeless shelters, recreation centers, family centers, and drug courts.[6]

Components. SFP includes (1) seven consecutive sessions, with children and parents working separately for one hour and together for a second hour; (2) three-hour booster sessions at six months to one year after the primary course; (3) program manuals and materials; (4) part-time site coordinator; (5) four group leaders; (6) two- to three-day training for coordinator and group leaders: (7) four to 14 families per group; and (8) provision of family meals, transportation, and child care recommended.[3,4]

Targeted Risk Factors/Groups. Although originally developed for children of substance abusers, ages six to 12, SFP has been modified and found to be effective for families of elementary school children with diverse backgrounds: African American, Asian/Pacific Islander, Hispanic, and American Indian families, rural families, and families with early teens. SFP is available in English and Spanish.[4,6]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance, (2) high-risk social behavior, and (3) early aggression

Research Evidence. To achieve maximum results, all 7 two-hour sessions of SFP must be completed. SFP has been evaluated more than 17 times, some studies using experimental or quasi-experimental designs and up to five-year follow-up. The program has resulted in:[3,4]

- Clinically significant decreases in conduct disorders
- Significant decreases in aggression
- Significant decreases in delinquency
- Decreased substance use

Contact
Karol Kumpfer, Ph.D.
Department of Health Promotion and Education
21901 East South Campus Drive, Room 2142
University of Utah
Salt Lake City, UT 84112

Phone: 801.581.7718
Fax: 801.581.5872
Email: karol.kumpfer@health.utah.edu

Program Name
Strengthening Families Program for Parents and Youth 10-14 (formerly Iowa Strengthening Families Program)
http://www.extension.iastate.edu/sfp/

Overview. The Strengthening Families Program for Parents and Youth 10–14 (SFP 10–14) is an adaptation of the Strengthening Families Program. The video-based program aims to reduce substance use and behavior problems during adolescence through improved skills in nurturing and child management by parents and improved interpersonal and personal competencies among youth. Youth sessions generally concentrate on strengthening goal setting, communication skills, behavior management techniques, and peer pressure. By contrast, parents generally discuss the importance of nurturing while simultaneously setting rules, monitoring compliance, and applying appropriate discipline. Topics include developing appropriate rules, encouraging good behavior, using consequences, building bridges, and protecting against substance abuse.[4]

Strategies. Family Strengthening; Life Skills Development

The seven-week intervention utilizes a biopsychosocial model in which parents and children learn individual skills in separate sessions, then are brought together to improve family communication and practices. Sessions can be delivered in schools, churches, community centers, or family service agencies, and center on narrated videos that portray typical youth and parent situations.[3,10]

Components. SFP 10–14 consists of: (1) 7 two-hour sessions for parents and youths—one hour for parent and children groups and one hour for family activities; (2) four booster sessions at three months to one year after primary sessions; (3) eight to 13 families per group; (4) three group leaders; (5) two- to three-day training for group leaders; (6) teaching manuals, videos, handouts, posters, and game cards, along with optional promotional materials; and (7) provision of family meals/snacks, transportation, and child care recommended.[3]

Targeted Risk Factors/Groups. SFP is designed for use with youth ages 10-14 and their families. It is available in English and Spanish.[3,10]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) high-risk social behavior

Research Evidence. Both post-test evaluations of family processes and follow-up studies of individual substance use have demonstrated positive effects for SFP families and adolescents, compared to control groups. During the four years after the study pre-test, compared to the control group, SFP participants showed:[3,4,10]

- Reduction in first time use of substances
- Reduction in conduct problems
- Delayed onset of other problematic behaviors

Contact
Catherine Webb
Partnerships in Prevention Science Institute
Iowa State University
2625 North Loop Drive, Suite 500
Ames, IA 50010

Phone: 515.294.1426
Fax: 515.294.3613
Email: cwebb@iastate.edu

Program Name
Success for All
http://www.successforall.net/

Overview. Success for All was developed to help all elementary school students achieve and retain high reading levels. The curriculum balances phonics and meaning-oriented approaches and includes story discussion, vocabulary, and comprehension assignments that progress through a set sequence of reading materials. As students' reading improves, reading, discussion, and assignments get increasingly more difficult. The program emphasizes cooperative learning, meta-cognitive skills, comprehension, and writing.[20,22]

Strategies. Academic Support; Family Strengthening

Students learn with same-age peers for most of the day, but work in cross-grade groups by reading level for 90 minutes every day. Cross-group assignments are reevaluated every eight weeks. One-to-one tutoring is provided for struggling readers, particularly for those in the 1st grade, but also for any student having problems reading. Family support services are provided to resolve problems, build home-school relationships, and help parents help their children with reading. A program facilitator coordinates program components, provides professional development and coaching for teachers, and tracks student progress.[20,22]

Components. Program components include: (1) program facilitator for all sites; (2) three-day summer training and on-site training throughout year for teachers; (3) program manual and reading lists; (4) 20 minute per day one-on-one tutoring sessions; and (5) family support team including parent liaison, school administrator, counselor, program facilitator, and other school staff.[20,22]

Targeted Risk Factors/Groups. The program is targeted to high-risk students in kindergarten through 6th grade and has been particularly successful with limited English proficient students. Materials are available in English and Spanish. The Spanish version uses similar instructional strategies as in the English version, but has adaptations making them appropriate for Spanish speakers and Latino culture.[22]

Relevant Impacted Risk Factors
Individual risk factors: (1) has a learning disability or emotional disturbance and (2) low achievement

Family risk factor: low contact with school

Research Evidence. Longitudinal research on Success for All has been carried out in several school districts in the U.S. Relative to students at comparison schools, Success for All students showed significant:[22]

- Gains in reading
- Reductions in special education placement
- Improvements in achievement

Contact

Nancy A. Madden
Success for All Foundation, Inc.
200 West Towsontown Blvd.
Baltimore, MD 21204-5200

Phone: 800.548.4998
Fax: 410.324.4444
Email: sfainfo@successforall.org

Program Name
Teen Outreach Program
http://www.wymancenter.org/shell.asp?id=18

Overview. The Teen Outreach Program (TOP) is a school-based program involving young people in volunteer service in their communities. The program connects the volunteer work to classroom-based, curriculum-guided group discussions on various issues important to young people. Designed to increase academic success and decrease teen pregnancy, TOP helps youth develop positive self-image, learn valuable life skills, and establish future goals. Coordinators can tailor the program to local needs, but must adhere to TOP's guiding principles.[1,11]

Strategies. After-school; Life Skills Development; Pregnancy Prevention; Service-Learning

TOP encompasses three interrelated elements: (1) supervised community volunteer service, (2) classroom-based discussions of service activities, and (3) classroom-based discussions and activities related to key social-developmental tasks of adolescence.[1]

Components. TOP includes: (1) student-selected service activity, with students providing 20 hours or more per year; (2) TOP curriculum manual and materials, with age-appropriate exercises and discussions, and evaluation manual; (3) student assessment through student journals and portfolios; (4) technical assistance on curriculum, recruitment of students, and identification of funding sources; and (5) nine-month program period for class of 18 to 25 students.[1,11]

Targeted Risk Factors/Groups. Originally designed for high school girls, the program now serves males and females in middle and high school, ages 12–17.[1]

Relevant Impacted Risk Factors
Individual risk factors: (1) parenthood, (2) low achievement, and (3) misbehavior

Research Evidence. Both experimental and quasi-experimental studies have been used to evaluate TOP. Researchers found that the students who worked more volunteer hours had better outcomes than those volunteering for fewer hours. In general, TOP participants, relative to control or comparison groups, were significantly:[1,11]

- Less likely to get pregnant
- Less likely to fail a course
- Less likely to be suspended

Contact
Claire Wyneken, Chief Programs Officer
Wyman Center
600 Kiwanis Drive
Eureka, MO 63025

Phone: 636.938.5245 ext. 236
Fax: 636.938.5289
Email: clairew@wymancenter.org

Program Name
The Incredible Years
http://www.incredibleyears.com/

Overview. The Incredible Years program features three comprehensive, multifaceted, developmentally-based curricula for parents, teachers, and children. The program is designed to promote emotional and social competence and to prevent, reduce, and treat aggressive, defiant, oppositional, and impulsive behaviors in young children. The Incredible Years addresses multiple risk factors known to be related to the development of conduct disorders in children in both school and home. In all three training programs, trained facilitators use videotaped scenes to structure the content and stimulate group discussion and problem solving.[3,10]

Strategies. Behavioral Intervention; Family Strengthening; Life Skills Development; School/Classroom Environment

The Incredible Years program includes: (1) a three-part parenting skills series, (2) a teacher training series that emphasizes classroom management and social skills building, and (3) a life/social/academic skills training for children that can also be used as a "pull out" treatment program for conduct problems.[10]

Components. The programs can be implemented as prevention by schools or related programs or as treatment in mental health centers.[3] Program implementation requires: (1) three primary curricula, (2) 18 to 22 weekly sessions for children, (3) 60 classroom lessons, (4) approximately 24 parenting group sessions, (5) 14 teacher training sessions, (6) trained co-leaders for all groups, and (7) administrative support for the program.[3,10]

Targeted Risk Factors/Groups. The Incredible Years program targets children, ages two to eight, at risk for and/or presenting with conduct problems (such as high rates of aggression or defiance).[10]

Relevant Impacted Risk Factors
Individual risk factors: (1) lack of effort and (2) misbehavior

Family risk factor: low contact with school

Relevant Impacted Risk Factors. All three program components have been extensively evaluated in randomized control group studies by independent investigators with different ethnic populations and age groups. Two randomized control group studies of outcomes of the teacher training indicated significant:[4]

- Increases in engagement in school activities
- Reductions in aggression in the classroom
- Increases in positive interactions with peers
- Reductions in conduct problems at school

Six randomized control group evaluations conducted by the developer and several independent replications by other investigators have revealed that the parent training significantly:[4]

- Increased parents' bonding and involvement with teachers and classrooms

Contact
Carolyn H. Webster–Stratton, Ph.D.
The Incredible Years
1411 Eighth Avenue West
Seattle, WA 98119

Phone: 888.506.3562
Fax: 888.506.3562
Email: lisastgeorge@comcast.net

Program Name
Too Good for Violence (TGFV)
http://www.mendezfoundation.org/

Overview. Too Good for Violence (TGFV) is a school-based violence prevention/character education program that improves student behavior and minimizes aggression. TGFV helps students in kindergarten through 12th grade learn the skills they need to get along peacefully with others. In both content and teaching methods, the program teaches students positive attitudes, beliefs, and behaviors. It builds skills sequentially and at each grade level provides developmentally appropriate curricula designed to address the most significant risk and protective factors. TGFV promotes what it calls a "C.A.R.E.–ing" approach to violence prevention by teaching *C*onflict resolution, *A*nger management, *R*espect for self and others, and *E*ffective communication.[4]

Strategies. Conflict Resolution/Anger Management; Life Skills Development

TGFV is designed to be delivered in a classroom setting by a trained teacher, counselor, or prevention specialist. The program's highly interactive teaching methods encourage students to bond with pro-social peers and engage students through role-playing, cooperative learning, games, small-group activities, and class discussions.[4]

Components. The program consists of: (1) a student curricula with seven 30- to 60-minute lessons per grade for K-5, nine 30- to 45-minute lessons per grade for 6-8, and 14 60-minute lessons per grade for 9-12; (2) groups of 20 to 35 students, fewer for special needs classes; (3) grade-level kits that include scripted curriculum, workbooks, and teaching materials such as posters, games, CDs, and visual aids; (4) recommended one- or two-day training for teachers; and (5) materials for families to use at home.[3,4]

Targeted Risk Factors/Groups. TGFV is a universal program intended for all school-age youth in grades K–12, ages 5 to 18.[3]

Relevant Impacted Risk Factors
Individual risk factors: (1) high-risk social behavior and (2) misbehavior

Research Evidence. Five studies conducted by independent evaluators have examined the effectiveness of TGFV, primarily examining pre-/post-test comparisons between treatment and control groups. Teachers generally observed:[3]

- Significantly more prosocial behaviors by students

Among high school students, grades 9–12, there were reductions in intentions to:[3]

- Drink alcohol
- Smoke marijuana
- Fight

Contact
Susan Chase
Mendez Foundation
601 South Magnolia Avenue
Tampa, FL 33606

Phone: 800.750.0986
Fax: 813.251.3237
Email: schase@mendezfoundation.org

Program Name
Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) (formerly Cognitive Behavioral Therapy for Child and Adolescent Traumatic Stress)
http://www.pittsburghchildtrauma.com/

Overview. Trauma-Focused Cognitive Behavioral (TF-CBT) is a psychotherapeutic intervention designed to help children, youth, and their parents overcome the negative effects of traumatic life events such as child sexual or physical abuse; traumatic loss of a loved one; domestic, school, or community violence; or exposure to disasters, terrorist attacks, or war trauma. It was developed by integrating cognitive and behavioral interventions with traditional child abuse therapies that focus on enhancement of interpersonal trust and empowerment. It targets symptoms of posttraumatic stress disorder (PTSD), which often co-occurs with depression and behavior problems. The intervention also addresses issues commonly experienced by traumatized children, such as poor self-esteem, difficulty trusting others, mood instability, and self-injurious behavior, including substance use.[3]

Strategies. Behavioral Intervention; Family Therapy; Mental Health Services

The program can be provided to children, youth, and their parents by trained mental health professionals in individual, family, and group sessions in outpatient settings. For youth, therapeutic interventions are combined with social skills education and artistic engagement.[3]

Components. The program operates through the use of: (1) 12 to 16 weekly, separate 30- to 45- minute sessions with children and with parents; (2) three child-parent sessions; (3) a one- to three-day training for qualified therapists; and (4) a treatment training manual.

Targeted Risk Factors/Groups. The program targets boys and girls, ages three to 18, from all socioeconomic backgrounds, in a variety of settings, and from diverse ethnic groups. It has been adapted for Hispanic/Latino children.[4]

Relevant Impacted Risk Factors.
Individual risk factors: (1) has a learning disability or emotional disorder and (2) high-risk social behavior

Family risk factors: (1) not living with both natural parents and (2) family disruption

Research Evidence. There have been several randomized controlled trials demonstrating the efficacy of TF–CBT in children of various ages. Children treated through TF-CBT had significantly fewer behavior problems and significantly fewer posttraumatic stress disorder symptoms. Studies have found that a year after treatment, compared with children who received supportive therapy, children who received TF–CBT had significantly:[3,4]

- Less acting-out behavior
- Greater improvement in defiant and oppositional behaviors

Contact

Center for Traumatic Stress in Children and Adolescents
Allegheny General Hospital
Four Allegheny Center, Eighth Floor
Pittsburgh, PA 15212

Phone: 412.330.4321
Fax: 412.330.4377
Email: JCohen1@wpahs.org

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