
Risk Factors for Adolescent Academic Achievement

Lynn Magdol

The Carnegie Council on Adolescent Development estimates that about one quarter of the adolescent population is at risk of academic failure and other problem behaviors. Another quarter is considered “moderately” at risk (Carnegie Council on Adolescent Development, 1989, p. 8). The most serious of the problems associated with school failure is the almost inevitable unemployment or underemployment that follows.

The costs to society and to the individual are high. The nation pays the price not only in welfare payments, but in an estimated \$260 billion in lost earnings and tax payments (Carnegie Council on Adolescent Development, 1989, p. 29).

Prevalence of low academic achievement

Academic achievement is measured in a variety of ways. The most commonly cited indicator is the rate of high school completion. Statistics also are available on grades, standardized test scores, absenteeism, suspensions and expulsions, and the percentage of students who have been held back. The following are often cited indicators of low achievement.

Being below grade level

Many students who repeat a grade ultimately will become discouraged and drop out of school altogether (Carnegie Council on Adolescent Development, 1989; Mahan & Johnson, 1983; Massachusetts Advocacy Center, 1988; National Commission on Children, 1991). According to 1988 data, 35% of male and 25% of female 13-year-olds are behind their age peers. African American males have especially high retention rates, approaching 50% (National Center for Education Statistics, 1991, p. 24).

Low achievement test scores

Adolescents in the United States are behind their peers in other countries in mathematics and science scores (National Center for Education Statistics, 1991, p. 38). Substantial numbers are deficient in basic reading comprehension and critical thinking skills (Carnegie Council on Adolescent Development, 1989; National Commission on Children, 1991). According to recent estimates, less than half of 17-year-olds have the basic skills necessary for employment or continuing education (National Commission on Children, 1991).

Dropping out

Rates of high school attendance have improved in this century (Center for the Study of Social Policy, 1986). However, dropping out is still a concern because it

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is associated with high social costs—lower earnings and higher rates of unemployment, welfare dependency, and criminal behavior (Carnegie Council on Adolescent Development, 1989; Center for the Study of Social Policy, 1986). African Americans and Hispanics have higher dropout rates than Whites. Overall, males have higher dropout rates than females; African American females, however, exceed Black males in dropout rates (National Center for Education Statistics, 1991, p. 26).

An estimated 40% of children in the United States are at risk for school failure due to poverty, race, immigration, poor English language skills, living in a single-parent family, parents with little education, or health problems (National Commission on Children, 1991).

This paper discusses risk factors that influence academic achievement. A risk-focused, ecological approach (Bogenschneider, 1996) identifies factors in the various environments that influence adolescent development. By considering all of these factors together, rather than in isolation from each other, we can begin to formulate a strategy for prevention.

Individual factors

Poor self-concept and low sense of control

Dropouts have poorer self-concepts than their peers who stay in school. Dropouts are more apt to believe they have little control over their own fate (Ekstrom, Goertz, Pollack, & Rock, 1986). Dropouts also have less sense of efficacy or responsibility (Sewell, Palmo, & Manni, 1981). We don't know if low self-confidence is the cause of doing poorly in school or if poor school performance causes a negative self-concept. Recent research supports the latter view, suggesting that improving school performance may enhance self-confidence (Steinberg, 1989; Sundius, Entwisle, & Alexander, 1991).

Alienation from school

High school dropouts do not feel a strong sense of belonging to their school (Mahan & Johnson, 1983) and are not very interested in school (Ekstrom et al., 1986; Mahan & Johnson, 1983). Many cite racial prejudice and discrimination as the reason (Center for the Study of Social Policy, 1986). Dropouts report less satisfaction and less effort in school, lower participation in extracurricular activities, more positive attitudes toward work than toward school, and lower aspirations for postsecondary education (Ekstrom et al., 1986).

Behavior problems

Elementary children who are highly aggressive are less likely to graduate from high school or pursue any college training (Lambert, 1988). By age 17 or 18, children who are hyperactive are more likely to achieve poorly, attend a special school, or drop out (Lambert, 1988). Dropouts more frequently skip classes and are absent or late. They more often are disciplined or suspended (Ekstrom et al.,

1986). Among high school students, problems with interpersonal relations and being less popular are associated with dropping out (Ekstrom et al., 1986).

Social skills training in early adolescence has proven an effective strategy for preventing smoking, marijuana use, early sexual activity (Ellickson, 1997; Howard-McCabe, 1990), and school failure. Larson (1989) describes a training program that emphasized impulse control, self-monitoring, perspective-taking, and problem-solving. Individuals in the treatment group showed less frequent expulsions and improvements in both academic and behavior ratings on their report cards.

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Drug and alcohol use and abuse

Adolescents who use drugs and alcohol are less likely to finish high school (Lambert, 1988). Average achievers are twice as likely to have used marijuana in the past week (12.9%) as high achievers (6.6%). No definite conclusions can be drawn about drug use as a cause or consequence of academic problems.

Delinquent behavior

High school students who have encounters with the police or criminal justice system are more likely to be dropouts than those who have not (Ekstrom et al., 1986).

Incompatible learning style

Dropouts usually don't do well in learning situations where they work alone. They are more authority-oriented and prefer more teacher assistance, but they resist assistance from other adults. Dropouts also prefer a varied learning environment that includes visual, auditory, tactile, and kinesthetic teaching styles. Dropouts are less alert in the morning and more alert in the evening than others (Gadwa & Griggs, 1985).

Earlier school problems

Earlier school problems may be at the root of academic failure in high school. Many students, especially minorities, decide to leave school during early adolescence, and a substantial number drop out of school before the end of the 10th grade (Carnegie Council on Adolescent Development, 1989). Poor performance in school leads to discouragement and to dropping out (Ekstrom et al., 1986; Gadwa & Griggs, 1985; Steinberg, Blinde & Chan, 1984). Special problem-solving skills training for a group of low-income minority 6th graders resulted in improved grades 40 weeks later (Larson, 1989).

Family factors

Low socioeconomic status

An adolescent from a family of lower socioeconomic status is more likely to leave high school before finishing (Ekstrom et al., 1986) and less likely to attend college (Lambert, 1988). According to a report by the National Commission on Children (1991), adolescents from low-income families are more likely to lack ba-

sic academic skills and to have repeated a grade as children. They are at risk for poorer health and nutrition. Poor families are likely to live in poor school districts with fewer resources to offer their students. Adolescents in low-income families are more likely to be employed, which may be harmful to school achievement if work hours are extremely long (National Commission on Children, 1991).

Ethnic minority status

Minority adolescents have higher dropout rates (Ekstrom et al., 1986). African Americans and Hispanics have lower grades than Whites (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987), but much of the effect may be due to the influence of socioeconomic status. Minority students are more likely to live in poor families or in single-parent families. Their parents have less education on average, and they usually attend lower quality schools. All of these factors put them at risk for school failure (National Commission on Children, 1991). They also may face discrimination and prejudice at school, and the value systems of school may conflict with family and ethnic values (Center for the Study of Social Policy, 1986; Fordham, 1988; Fordham & Ogbu, 1986; National Commission on Children, 1991).

Family structure affects absences and behavior problems in school.

Research on minority students whose first language is not English shows that they are not below average in cognitive ability. They may be underachieving in school because they are hesitant to speak up in the classroom and participate in discussions (Feldman, Stone, & Renderer, 1990), or because of parent and teacher attitudes (Steinberg et al., 1984).

Single-parent and stepparent families

Family structure affects absences and behavior problems in school (Dornbusch et al., 1985). Students who experience family disruption or live in single-parent families are more apt to be placed in a special education class (Lambert, 1988). Adolescents in single-parent and stepfamily households have lower grades than those in two-parent households (Dornbusch et al., 1987).

Single-parent families on average are more likely to be low-income families (McLanahan, 1985; Milne, Myers, Rosenthal, & Ginsburg, 1986). The stress of family breakup may place students at risk (McLanahan, 1985). The absence of a father has been linked to less parental supervision, another possible link to lower achievement. If the father is not present, the mother is more likely to be employed and less available to supervise (National Commission on Children, 1991).

Maternal employment

A number of studies suggest that when mothers are employed full-time, some children—of all ages from preschool through high school—do not do as well in school (Baydar & Brooks-Gunn, 1991; Bogenschneider & Steinberg, 1994; Bronfenbrenner & Crouter, 1982; Gold & Andres, 1978; Hoffman, 1979; Milne et al., 1986).

Low parental aspirations and expectations

When parents set high standards, children work harder and their school achievement is higher (Natriello & McDill, 1986). High school dropouts report their mothers have lower expectations for them (Ekstrom et al., 1986). Furthermore, high school dropouts are likely to have a family history of dropping out (Mahan & Johnson, 1983), suggesting again the influence of family norms or expectations. When parents express high expectations about continuing schooling past high school, children are more likely to go on for further education after graduation (Conklin & Dailey, 1981).

High aspirations may be especially important for adolescents from low socioeconomic backgrounds. Parents who have high aspirations may provide a strong influence that enables children to overcome other disadvantages (Davies & Kandel, 1981).

Permissive or strict parenting style

The negative effects of low socioeconomic status or a single-parent family on school achievement are due, in large part, to characteristics of parent-child relationships in such families. Parental discipline, control, monitoring, concern, encouragement, and consistency are all aspects of the parent-child relationship that have been linked to academic achievement in adolescence.

The authoritative parenting style, characterized by warmth, interest, and concern, along with clear rules and limits, has a positive effect on grades. Parenting that is too permissive or too strict has a negative effect on grades (Dornbusch et al., 1987).

Single mothers score higher on permissive parenting than those in two-parent families. Stepparents are more likely to be permissive or very strict than parents in two-parent families (Dornbusch et al., 1987).

Poor parental monitoring

High school dropouts report less parental monitoring of their activities and less communication with parents (Ekstrom et al., 1986).

Low parental involvement with school

When parents attend parent-teacher conferences, help with home-work, and watch their children in sports or other activities, their children do better in school. (Bogenschneider, 1997; Henderson, this volume). When parents are not involved, their children receive lower grades, are more likely to drop out, and have poorer homework habits (Baker & Stevenson, 1986, Epstein, 1982). Parental involvement is a potent predictor of school success, regardless of ethnicity, parent education, family structure, or gender (Bogenschneider, 1997).

Parents of dropouts may express their opposition to dropping out but not take any specific action to help their adolescent stay in school (Mahan & Johnson, 1983). Parental interest may be shown by the presence of study aids such as encyclopedias and dictionaries in the home (Ekstrom et al., 1986).

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Peer factors

Lack of friends

Adolescents who are popular as children are more likely to finish high school and more likely to go to college (Lambert, 1988). Dropouts rate themselves as less popular (Ekstrom et al., 1986).

Friends with school problems

The friends of high school dropouts have more absences, lower grades, and less positive attitudes toward school. They are less popular and less likely to plan to attend college (Ekstrom et al., 1986). If dropouts maintain contact with friends who have stayed in school, however, these friends may provide moral support for returning to school (Mahan & Johnson, 1983).

Friends with negative attitudes

Attitudes and aspirations of peers (Marjoribanks, 1985) and peers' expectations and standards (Natriello & McDill, 1986) affect individual effort and achievement in school. Although peer influence is an important factor in some aspects of achievement, parents' influence is more important for others (Davies & Kandel, 1981). For example, parents have more influence than peers on plans for future schooling, but peers are more influential when it comes to attitudes toward school and time spent on homework (Steinberg & Brown, 1989).

School factors

Ineffective teachers

Effective teachers like their students (Edmonds, as cited in Good & Weinstein, 1986; Center for the Study of Social Policy, 1986), are highly involved with students (National Commission on Children, 1991), encourage participatory learning (Edmonds, as cited in Good & Weinstein, 1986), and have high expectations for their students (Center for the Study of Social Policy, 1986; Edmonds, as cited in Good & Weinstein, 1986; Linney & Seidman, 1989; National Commission on Children, 1991). More experience and training does not, in itself, assure effective teaching, but opportunities for staff to periodically upgrade their training appear to be critical (Boyer, 1983; Spady, 1976). Elsewhere in this report, Spillane argues that state policy initiatives, such as holding schools accountable for student performance on state tests, were effective in getting teachers' attention. Yet policy alone failed to change the core of teaching practice. The most effective way to do this is to encourage teachers to learn about the reforms and to share ideas and teaching strategies both with each other and with experts.

Inflexible curriculum

Instruction that is flexible enough to suit a variety of learning styles may prevent discouragement and dropping out (Gadwa & Griggs, 1985). The curriculum

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should also take into account the values and experiences of students from a variety of ethnic and social class backgrounds to prevent student alienation (Center for the Study of Social Policy, 1986; Massachusetts Advocacy Center, 1988). If the school provides an opportunity for participation in decision making, students are more satisfied with school and have higher grades (Epstein, 1983).

Lack of counseling services for at-risk students

At-risk students require extra attention, especially at stressful times, from teachers or counselors (Carnegie Council on Adolescent Development, 1989). When students are close to dropping out of school, counselor availability and information about alternatives can make a difference (Mahan & Johnson, 1983). The high dropout rates of language minority students may be due to the lack of attention from teachers (Steinberg et al., 1984).

School transitions

Changing schools is stressful and may cause either temporary or long-term problems with academic performance. When students enter a middle school or junior high school, they are at risk of lower grades and declining participation in school activities (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). The more complex structure of the high school may cause adjustment problems, leading to academic problems (Carnegie Council on Adolescent Development, 1989; Mahan & Johnson, 1983).

One experimental program, offered during the transition into high school, provided extra peer and teacher support. When participants were compared with a control group, they showed fewer absences, higher grades, less decline in self-concept, and a more positive attitude toward school (Felner, Ginter, & Primavera, 1982).

Students who move and change schools more frequently are more likely to drop out of high school (Lambert, 1988; Mahan & Johnson, 1983) and less likely to attend college (Lambert, 1988).

Weak administrative support

A principal who displays strong leadership and is involved in instruction is important to school effectiveness (Boyer, 1983; Edmonds, as cited in Good & Weinstein, 1986; National Commission on Children, 1991). A good principal should be supportive of teachers (Boyer, 1983) and should be willing to involve teachers in decisions and planning (Massachusetts Advocacy Center, 1988). The principal should have enough autonomy from the school district to exercise authority (Boyer, 1983).

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Size of the school district

Small rural districts and large urban districts have higher dropout rates (Gadwa & Griggs, 1985). A recent study of Wisconsin dropouts reported higher dropout rates in larger school districts. The study identified school district size as the most significant predictor of dropout rates (Center for the Study of Social Policy, 1986).

Size of the school

Large schools have the advantage of more resources, but they have the disadvantages of being impersonal and having more disorder or crime. Smaller schools are considered better, especially for at-risk students (Boyer, 1983). In large schools, a smaller subunit, or school-within-a-school program, is recommended (Carnegie Council on Adolescent Development, 1989; Dorman, 1987).

Low participation in extracurricular activities

High school dropouts report lower levels of participation in extracurricular activities (Ekstrom et al., 1986). In small schools, participation is more active, and there is more pressure on individual students to participate. Students in these schools benefit from the challenges and developmental opportunities of activities. In large schools, fewer students participate in activities and students who feel alienated from the school are especially likely to be left out of extracurricular activities (Barker & Gump, 1964).

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Negative school climate

The lack of an orderly classroom environment (Edmonds, as cited in Good & Weinstein, 1986; Linney & Seidman, 1989; National Commission on Children, 1991) and a lack of a sense of safety (Edmonds, as cited in Good & Weinstein, 1986) are major ingredients in a negative school climate.

Uninvolved parents

Parent participation in the school—ranging from classroom visits to tutoring, textbook evaluations, and staff evaluations (Irvine, 1988)—result in better school-family relations. Improved communication between the school and the family keeps parents informed and provides information on how to help their children succeed (Massachusetts Advocacy Center, 1988). The result is improved student achievement and attitudes toward school (Carnegie Council on Adolescent Development, 1989).

Work factors

Early involvement in work

Students who work may drop out or have lower aspirations for postsecondary education (Ekstrom et al., 1986; Steinberg, 1989). Ekstrom and her colleagues (1986) found that 27% of male dropouts cited employment as the reason they left school, and 14% cited family support obligations.

Long work hours

Part-time work has some developmental benefits for adolescents, but employment may present problems for high school students who work excessively long hours. Working long hours may lead to more school absences, less time spent on homework, choosing easier classes, cheating on tests, and lower teacher expectations (Steinberg, 1989; Steinberg, Brown, Cazmarek, Cider, & Lazarro, n.d.).

Community factors

Low socioeconomic level

Adolescents in communities with high rates of welfare and unemployment are less interested in school (Nettles, 1990). However, the negative effects of living in a low-income community may be offset by parenting style and social relationships with persons outside the community— family and friends, church, and other organizations (Steinberg, 1988).

Studies comparing the relative influence of the family and the community have been inconclusive. Some assert that community effects may be explained by individual family factors. On the other hand, Dornbusch and Ritter (1991) suggest that the average parenting style in a community may outweigh the style of individual parents in influencing their adolescents' grades.

Lack of community resources

The amount of money spent on education by local government appears to be related to effectiveness of education, but the relationship is unclear (National Commission on Children, 1991; Spady, 1976). School districts with more funding have lower dropout rates (Center for the Study of Social Policy, 1986). Inadequate funding may impair recruitment of high quality teachers and maintenance of textbooks and other curriculum materials (National Commission on Children, 1991). Studies in this area have been flawed in not considering the possibility that higher ability students might be drawn disproportionately to high quality school districts.

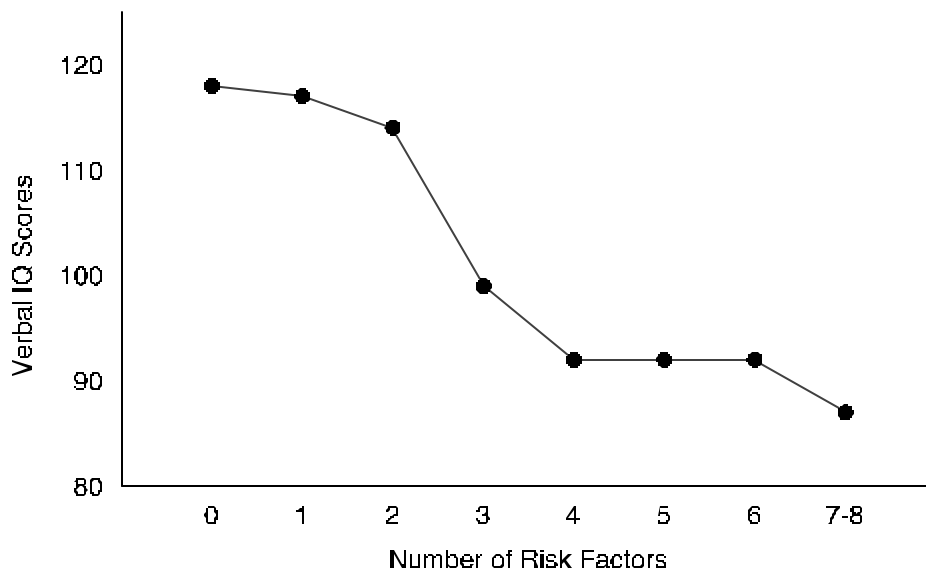
Two factors that contribute to the funding ability of a community are the school aid formula (see Reschovsky, this volume) and the presence of industry. Industry creates a strong tax base (Spady, 1976) and brings resources such as money, equipment, and expertise to a community (Irvine, 1988). In Milwaukee, when local businesses donated money for computers, mean reading scores improved by three grade levels and mean math scores improved by almost four grade levels (Mann, 1986). In Atlanta, volunteers from the business community served as mentors in a successful program to promote academic success (Mann, 1986).

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Cumulative risk

One study of 215 children examined how risks affected verbal IQ scores in 4-year-olds. The study included risks such as the mental health of the mother, mother's anxiety, mother's education, minority group status, and stressful life events (Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987). The study found that the presence of a single risk had little effect on IQ. However, the more risk factors, the more likely IQ was jeopardized. High-risk children were more than 24 times as likely as children with fewer risks to have IQs below 85.

Does the Number of Risks Affect Children's Verbal IQ Scores?



Note: From "Intelligence Quotient Scores of 4-Year-Old Children: Social-Environmental Risk Factors," by A. J. Sameroff, R. Seifer, R. Barocas, M. Zax, & S. Greenspan, 1987, *Pediatrics*, 79, pp. 343–349.

Implications for policymakers

According to this risk-focused ecological approach, educational performance has not one cause, but many. To improve educational performance, we need a comprehensive, multidimensional approach. We need to address individual academic and social skills, family dynamics, peer influence, school performance, and community support. All too often we look for a single factor and a "magic bullet." However, simple solutions to complex problems are likely to result in piecemeal, Band-Aid policies. Educational performance is much too complex and the solutions much too comprehensive to respond to any single policy or program.

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