

WISCONSIN YOUTH FUTURES

Technical Report #3

Factors for Adolescent Academic Achievement



University of Wisconsin-Madison/Extension
[Cooperative Extension](#)

Risk Factors for Adolescent Academic Achievement

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The Carnegie Council on Adolescent Development (1989) estimates that about one quarter of the adolescent population is at risk of academic failure and other problem behaviors, with another quarter considered "moderately" at risk (Carnegie Council on Adolescent Development, 1989, p.8). School failure and the almost inevitable unemployment or underemployment that follow are among the most serious of these problems.

The costs to society and to the individual are high. Those who stay in school can avoid the risk of welfare: one added year of schooling means a 35 percent reduction in the chances of receiving welfare payments as an adult (Carnegie Council on Adolescent Development, 1989, p. 29). The nation pays the price not just in welfare payments, but in an estimated \$260 billion in lost earnings and tax payments (Carnegie Council on Adolescent Development, 1989, p. 29).

School failure is thus a real problem. As such, it has attracted the attention of researchers in psychology, sociology, and education. They have identified numerous factors that are associated with academic success or failure. These range from individual aspects of learning, such as behavior problems or cognitive deficiencies, to family factors such as parenting techniques, to social issues such as poverty and cultural differences.

This paper summarizes the research findings on risk factors for academic achievement in adolescence. I review different measures of school achievement and summarize the latest statistics on the prevalence of the problem. I then discuss the risk factors that have been identified by research in the individual, family, peer, school, work, and community contexts. Because the emphasis is on adolescents, I do not discuss in detail the earlier risks factors in childhood or the preventive programs that have been developed to deal with them. However, these are an important component of successful schooling that should not be ignored. One scholar has compared the stability of achievement to a railroad track, with early achievement leading to later achievement (Featherman, 1980).

Prevalence of Low Academic Achievement

Low academic achievement is measured in a variety of ways. The most commonly cited indicator is the rate of high school completion, but statistics are also available on grades, standardized test scores, absenteeism, suspensions and expulsions, and the percentage of students who have been held back. This section summarizes the latest available information on grade retention, test scores, and high school completion. Gender and race differences are presented, and the societal costs of academic failure are discussed.

Being below the modal grade level for one's age is one statistic that is relevant to school failure, since many students who are held back to repeat a grade will ultimately become discouraged enough to drop out of school altogether (Mahan & Johnson, 1983; Massachusetts Advocacy Center, 1988; Carnegie Council on Adolescent Development, 1989; National Commission on Children, 1991). According to 1988 data, 35 percent of male and 25 percent of female 13 year olds were behind their age peers; black males have especially high retention rates, approaching 50 percent (National Center for Education Statistics, 1991, p.24).

Standardized achievement tests are another common measure of school achievement. International comparisons show that adolescents in the U.S. are behind their peers in other countries in mathematics and science scores (National Center for Education Statistics, 1991, p. 38). Substantial numbers are also 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 of school before high school graduation is a commonly cited indicator of academic failure. Approximately one-fourth of 18 and 19 year olds have not completed high school (National Center for Education Statistics, 1989, p. 24), while 17 percent of the sophomore class of 1980 dropped out before they graduated (National Center for Education Statistics, 1991, p. 26). A substantial number of youth who drop out, however, will subsequently complete high school or obtain an equivalency diploma. For the sophomore class of 1980, almost half of those who will not complete high school on time had obtained a high school or equivalent diploma within 6 years (National Center for Education Statistics, 1991, p. 26). In addition, a substantial number enter training programs of some kind within two years of dropping out (Ekstrom, Goertz, Pollack, & Rock, 1986).

A recent report from the National Center for Education Statistics (McMillen, 1992) looks at dropout rates prior to high school and finds substantial dropout rates between 8th and 10th grades, especially among Hispanics and blacks. The report also cites evidence suggesting even higher Hispanic rates due to dropping out even earlier.

The gender and race differences in high school completion are significant. Overall, males have higher dropout rates than females; black females, however, exceed black males in dropout rates (National Center for Education Statistics, 1991, p. 26). Whites have higher rates of high school completion than blacks and Hispanics, but black male completion rates are improving (National Center for Education Statistics, 1991, p. 28). In 1987, the proportion of 25 to 29 year olds who were high school graduates was 86.0 percent, ranging from 58.6 percent among Hispanic males to 87.1 percent among white females (National Center for Education Statistics, 1991, p. 28).

Rates of high school attendance have improved over the course of this century (Center for the Study of Social Policy, 1986), and were still improving somewhat in the 1980's (National Center for Education Statistics, 1991, p. 12). Dropout rates are still a matter of concern, however, due to the continuing social costs incurred by lower earnings as well as higher rates of unemployment, welfare dependency, and criminal behavior that are associated with school failure (Center for the Study of Social Policy, 1986; Carnegie Council on Adolescent Development, 1989; National Commission on Children, 1991). The employment rate for recent high school graduates is almost 72 percent, compared to about 47 percent for recent high school dropouts (National Center for Education Statistics, 1991, p. 44). For males in the 25 to 34 age group, high school graduates have an employment rate of almost 90 percent, compared to about 75 percent for those with only 9 to 11 years of schooling. Median annual earnings of white male dropouts are about three-fourths as much as for high school graduates, while those who complete college earn almost one and a half times as much (National Center for Education Statistics, 1991, p. 48). For black males, the earnings and employment differentials between high school dropouts and high school graduates are even larger (National Center for Education Statistics, 1991).

Aside from race and gender differences, other social and demographic factors make them especially vulnerable to school problems. Of the 3.7 million children born in 1984, it is estimated about 500,000 (about 13 percent) were initially at risk for low school achievement, due to health-related factors such as physical or mental disabilities or chronic illness (Higgins & Mueller, 1988). In addition, about a quarter of children under the age of 6 are living in poverty, a factor that is highly relevant to school failure (Higgins & Mueller, 1988). Overall, an estimated 40 percent of children in the United States are at-risk of 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).

The following sections discuss in more detail the individual, family, peer, school, and community risk factors that influence academic achievement. This paper takes a risk-focused, ecological approach (Bogenschneider, Small, & Riley, 1990), identifying factors in the various environments that influence adolescent development. By considering all of these contexts together, rather than in isolation from each other, we can begin to formulate a strategy for prevention.

Individual Factors

An individual student might do poorly in school and subsequently leave prematurely for a variety of reasons. A national survey conducted in the early 1980's, *High School and Beyond*, asked students their own reasons for dropping out. The most common responses were not liking school (reported by a third of dropouts) and getting poor grades (also about a third). Other reasons given were not getting along with teachers and several life events. Males and females differed in their most common reasons. Males were more than twice as likely as females (13 percent vs. 5 percent) to drop out due to expulsion or suspension, employment (27 percent vs. 11 percent), or to contribute to family support (14 percent vs. 8 percent). Females were much more likely than males to drop out due to marriage (31 percent vs. 7 percent) or pregnancy (23 percent vs. 0 percent) Ekstrom et al, 1986).

Poor Self-Concept and Low Sense of Control

In one study, a group of low income 6th to 8th graders were asked to rate themselves on general competence and academic ability. Positive rates, both overall and academic, were correlated with better grades and test scores (Sapp, 1990). Self-concept is also better grades and test scores (Sapp, 1990). Self-concept is also moderately related to arithmetic test scores among recent dropouts (Sewell, Palmo, & Manni, 1981). Dropouts have poorer self-concepts than their peers who stay in school; however, this relationship is moderate (Sewell et al, 1981) or is restricted to certain aspects of self-concept rather than global self-esteem (Ekstrom et al, 1986).

Dropouts score higher on external locus of control, the feeling that their fate is determined by circumstances that they cannot change (Ekstrom et al, 1986). Dropouts also have less sense of efficacy or responsibility (Sewell et al, 1981).

Because the evidence on self-concept and school achievement is largely correlational, we don't know which came first or which is the causal factor. Perhaps having low self-confidence is the cause of doing poorly in school. On the other hand, poor school performance might cause a negative self-concept, which in turn might precipitate dropping out of school. Recent research supports this latter view, suggesting that improving school performance may enhance self-confidence (Steinberg, 1989, p. 247; 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 (Mahan & Johnson, 1983; Ekstrom et al, 1986). 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 towards work than towards school; and lower aspirations for post-secondary education (Ekstrom et al, 1986). Students who are doing poorly in school are especially vulnerable to missing the developmental benefits of extracurricular activities if they are attending large schools where only a small percentage of the students are involved in such activities (Barker & Gump, 1964).

Behavior Problems

Behavior problems in school, starting in the elementary grades, are associated with low academic achievement. For example, individuals who are highly aggressive in childhood are less likely to graduate from high school or pursue any college training (Lambert, 1988). Children who are hyperactive also have problems in school. By age 17 or 18, they are more likely than other children to be either achieving poorly, attending a special school, or dropped out altogether (Lambert, 1988). In addition, high school dropouts have more problem behaviors in school than those who do not drop out. They report higher rates of skipping classes, absences, lateness, and being disciplined or suspended (Ekstrom et al, 1986). Behavior problems seem more important for some students than others. Behavior problems are more likely to lead to dropping out of high school for those who are male, have low scores on verbal tests, score high on external locus of control, or report a nonsupportive home environment (Ekstrom et al, 1986).

Problems with interpersonal relations as early as the elementary grades will cause academic problems in adolescence (Lambert, 1988). Social adjustment problems may be especially significant during the transition to high school during early adolescence (Mahan & Johnson, 1983; Larson, 1989). Among high school students, being less popular is also associated with dropping out (Ekstrom et al, 1986).

Social skills training in early adolescence may be an effective prevention action for some youth. Larson (1989) describes a training program that emphasized impulse control, self-monitoring, perspective-taking, and problem-solving. Individuals in the treatment group in this study showed less frequent expulsions and an improvement in both academic and behavior ratings on their report cards.

Drug and Alcohol Use and Abuse

The use of drugs and alcohol by adolescents is negatively related to their academic performance. Not finishing high school is correlated with using marijuana and hard liquor (Lambert, 1988). Marijuana use is associated with lowered motivation, decline in achievement, and dropping out. Average achievers are twice as likely to have used marijuana in the past week (12.9 percent) as high achievers (6.6 percent). Reports of having ever used marijuana are negatively associated with high achievement and time spent on homework; conversely, ever having used marijuana is positively associated with doing poorly in school and number of absences (Rob, Reynolds, & Finlayson, 1990). Since these are correlational relationships, no definite conclusions can be drawn about drug use as a cause or consequence of academic problems: whether marijuana leads to school problems or whether school problems lead to marijuana use remains unclear.

Delinquent Behavior

Criminal or delinquent behavior is also related to school failure. High school students who had encounters with the police or criminal justice system were more likely to be dropouts than those who had not (Ekstrom et al, 1986).

Learning Style

In a study comparing dropouts to high school students in alternative and traditional school settings, Gadwa and Griggs (1985) measured three different aspects of learning style: cognitive, effective, and physiological. Their results show significant differences among these three groups in their preferences for how the learning environment is structured. For example, dropouts are less favorably disposed towards learning situations where they work alone. They are more authority-oriented and prefer more teacher assistance, but resist assistance from other adults. Dropouts also prefer a varied learning environment that includes visual, auditory, tactile and kinesthetic teaching styles, more than other students. Dropouts were also found to be less alert in the morning and more alert in the evening than others in the study.

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). Being below grade level, especially by more than one year, is correlated with the likelihood of dropping out of school (Mahan & Johnson, 1983); Center for the Study of Social Policy, 1986). Poor performance in school leads to discouragement and ultimately to dropping out (Ekstrom et al, 1986; Steinberg, Blinde & Chan, 1984; Gadwa & Griggs, 1985).

Special problem-solving skills training for a group of low income minority 6th graders resulted in improved report card grades 40 weeks later (Larson, 1989). Although no long-term follow-up was reported in this study, the results suggest the value of interventions that are early and that target cognitive skills.

Family Factors

Low Socioeconomic Status

An adolescent from a family of lower socioeconomic status is more likely to exit from high school before finishing (Ekstrom et al, 1986) and less likely to attend college (Lambert, 1988). According to a recent report by the National Commission on Children (1991), poverty can affect educational outcomes in a variety of ways. Adolescents from poor families are more likely to lack basic academic skills and to have repeated a grade as children; they are at risk for poorer health and nutrition, a factor that could affect their ability to concentrate in the classroom. The stress and lack of social support to parents in poor families may adversely affect parents' support for school success, and thus, children's intellectual development. Poor families are likely to live in poor school districts with fewer resources to offer their students. Adolescents in poor families are more likely to be employed, and this may be harmful to school achievement if work hours are extremely long (National Commission on Children, 1991).

Mother's educational attainment is a significant predictor of high school completion (Ekstrom et al, 1986; Howell & Frese, 1982), and of test scores (National Commission on Children, 1991). The effects of mothers' education, and fathers' education as well, are due in part to the influence of education on parental expectations and parenting style (Howell & Frese, 1982).

Ethnic Minority Status

Minority adolescents have higher dropout rates (Ekstrom et al, 1986). Blacks and Hispanics have lower grades than whites (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). Much of the effect of minority status on academic performance may be actually due to the influence of socioeconomic status. Whites' dropout rates are actually higher than those for blacks, after controlling for socioeconomic status (Howell & Frese, 1982). Hispanic students have higher dropout rates than other "language minority" youth, but again, this is largely due to the lower socioeconomic status of many Hispanics (Steinberg et al, 1984).

A number of factors have been suggested to explain the lower academic achievement of minority students, aside from socioeconomic status. Minority students are more likely to live in poor families or in single parent families, their parents are likely to have less education, and they usually attend lower quality schools, all of which are risk factors for school success (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 subculture values (Center for the Study of Social Policy, 1986; Fordham & Ogbu, 1986; Fordham, 1988; National Commission on Children, 1991). In the face of high black unemployment rates and widespread discrimination in hiring and promotions, minority students may be realistically pessimistic about the future opportunities that an education can provide them (Fordham & Ogbu, 1986).

Research on minority students, whose first language is not English, shows that they are not below average in cognitive ability, but 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 Step-Parent Family

Family structure affects both behavior problems in school and absences (Dornbusch, Carlsmith, Bushwall, Ritter, Leiderman, Hastorf, & Gross, 1985). Students who experience family disruption or live in single parent families are more apt to be placed in a special education school (Lambert, 1988). Adolescents in single parent and step-family households have lower grades than those in two-parent households (Dornbusch et al, 1987). Achievement test scores are lower for students in single-parent families, but the family structure differences in scores are statistically significant only for younger students (Milne, Myers, Rosenthal, & Ginsburg, 1986). Adolescents in single parent families are less likely to be in school at age 17 and less likely to graduate from high school than others (McLanahan, 1985). Students living with both biological parents are more likely to complete high school; however, this holds for whites and Hispanics only, not for blacks (Ekstrom et al, 1986).

Several explanations have been proposed for the relationship between family structure and adolescent achievement in school. Lower income in single parent families is a major factor (McLanahan, 1985; Milne et al, 1986). When asked why they drop out, students cite family stress (Mahan & Johnson, 1983); thus, the stress of family break-up may place students at risk. McLanahan (1985) finds that the effects of stress are greatest during the initial transition to a single parent arrangement and decline over time. 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 thus less available to supervise, suggesting a loss of potential supervision by both father and mother. (National Commission on Children, 1991).

Maternal Employment

For younger children, several studies suggest that full-time maternal employment is associated with diminished school achievement, especially among white middle-class boys from two-parent families (Bronfenbrenner & Crouter, 1982; Gold & Andres, 1978; Hoffman, 1979). Replication of these studies of younger children has found that full-time maternal employment during high school is also associated with lower grades (Milne et al, 1986), especially among middle and upper middle class boys (Bogenschneider & Steinberg, in press). Furthermore, when mothers had worked full-time in preschool, middle class girls and upper middle class boys and girls reported lower grades in high school (Bogenschneider & Steinberg, in press).

Consistent with accumulating evidence indicating the primacy of maternal employment during the infancy and preschool years for child outcomes (Belsky & Rovine, 1988; Baydar & Brooks-Gunn, 1991), upper middle class boys whose mothers worked full-time throughout their lives reported lower grades than those whose mother increased work hours over time (Bogenschneider & Steinberg, in press).

Low Parental Aspirations and Expectations

If parents set high standards, children exert more effort and their school achievement is higher (Natriello & McDill, 1986). High expectations from parents earlier during preadolescence have positive effects on adolescents staying in school later (Howell & Frese, 1982). High school dropouts report lower expectations on the part of their mothers (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. Students whose parents express positive expectations regarding their child's continuing schooling after high school are more likely to do so; those whose parents do not have such expectations are more likely to end their education at the point of high school 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 them to supersede the disadvantages that they face (Davies & Kandel, 1981).

Parenting Style

The negative effects of low socioeconomic status or being in a single parent family on school achievement are due, in large part, to characteristics of parent-child relations in such families; the number of parents may not be as important as the nature of parenting. 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 permissive or authoritarian has a negative effect on grades (Dornbusch et al, 1987). Permissive parenting can be motivated by either a permissive, liberal orientation or one that is neglectful and disengaged. The neglectful style has the most negative effects on grades, attitudes towards school, and ability (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Inconsistency in parenting style exerts the most detrimental effects on academic performance (Steinberg, Brown, Cazmarek, Cider, & Lazarro, n.d.)

Parents with more education are more likely to be authoritative and less likely to be permissive or authoritarian. Single mothers score higher on permissive parenting than those in two-parent families, and step-parents are more likely to be permissive or authoritarian than parents in 2-parent families (Dornbusch et al, 1987).

Parental involvement and encouragement are important influences on academic success. Discussion and encouragement when children are younger also increase the likelihood of their ultimately graduating from high school (Howell and Frese, 1982). Consistence of parental encouragement through the high school years is positively related to attending college, but less predictive of attendance at a two-year college than a four-year college (Conklin & Dailey, 1981). High school dropouts report less parental monitoring of their activities and less discussion with parents (Ekstrom et al, 1986). 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, also related to the likelihood of staying in school (Ekstrom et al, 1986).

Peer Factors

Lack of Friends

Those 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 towards 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), as well as peers' expectations and standards (Natriello & McDill, 1986), affect individual effort and achievement in school. For many black high school students, achieving in school is in direct conflict with peer acceptance (Fordham & Ogbu, 1986; Fordham, 1988). Although peer influence is considered an important factor in most adolescent behaviors, educational aspirations are one area where parents' influence is more important than peer influence (Davies & Kandel, 1981). Parents are more influential than peers on plans for future schooling, but peers are more influential than parents in the immediate daily aspects of education such as attitudes towards school and effort on homework (Steinberg & brown, 1989). Furthermore, positive support from parents may offset any negative influence of peers on school performance, and supportive peers may similarly provide offsetting effects on negative parental influences (Steinberg & Brown, 1989).

School Factors

Alienated Teachers

Effective teachers are those who like their students (Edmonds, 1983, cited in Good & Weinstein, 1986; Center for the Study of Social Policy, 1986), are highly involved with students (National Commission on Children, 1991), encourage participative learning (Edmonds, 1983, cited in Good & Weinstein, 1986), and have high expectations for their students (Edmonds, 1983, cited in Good & Weinstein, 1986; Center for the Study of Social Policy, 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 (Spady, 1976; Boyer, 1983).

Inflexible Curriculum

A curriculum that is flexible and open to innovations is another characteristic of effective schools (Center for the Study of Social Policy, 1986; National Commission on Children, 1991). Instruction that is structured to suit a variety of learning styles may prevent discouragement and dropping out (Gadwa & Griggs, 1985).

The curriculum should also take into account the differing values and experiences of students from a variety of ethnic and social class backgrounds, in order 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 may require extra attention, especially at stressful times, from either teachers or counselors (Carnegie Council on Adolescent Development, 1989). When students are close to dropping out of school, counselor availability and information about alternatives could 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 more long-term problems with academic performance. The transition to junior high school requires the learning of new skills (Larson, 1989). Students who enter junior high school while also facing biological and social changes are at risk of lowered 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 (Mahan & Johnson, 1983; Carnegie Council on Adolescent Development, 1989). An experimental program during the transition into high school which provided extra peer and teacher support to reduce uncertainty resulted in lower rates of absences, higher grades, less decline in self-concept, and a more positive attitude toward school among participants, compared to a control group (Felner, Ginter, & Primavera, 1982).

Residential mobility may also result in changing schools. The number of moves and school changes experienced by an individual are correlated with dropping out of high school (Mahan & Johnson, 1983; Lambert, 1988) and a lower likelihood of attending college (Lambert, 1988).

Weak Administrative Support

A strong principal is an important component of effective schools. Leadership and involvement in instruction are key factors (Boyer, 1983; Edmonds, 1983, 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 them in decisions and planning (Massachusetts Advocacy Center, 1988). The principal should have enough autonomy from the school district to exercise authority (Boyer, 1983).

Large School District

The size of a school district influences academic performance; 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 and found that size of school district was the most significant predictor of dropout rates (Center for the Study of Social Policy, 1986).

Large School

A somewhat separate issue from the size of the district is the size of the school itself. Large schools have the advantage of more resources, but they have the disadvantages of being too 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 (Dorman, 1987; Carnegie Council on Adolescent Development, 1989).

Low Participation in Extracurricular Activities

High school dropouts report lower levels of participation in extracurricular activities (Ekstrom et al, 1986). The benefits of participation are different in large schools and small schools. In small schools, participation is more active and there is more pressure on each individual student to participate. Students in these schools benefit from the challenges and developmental opportunities of activities. In large schools, a smaller proportion of the students participate in activities and they report a feeling of belonging as the main benefit. Students who feel alienated from the school are especially likely to be left out of extracurricular activities in these larger schools (Barker & Gump, 1964).

Negative School Climate

The general atmosphere of a school is considered an important factor in students' success. The lack of an orderly classroom environment (Edmonds, 1983, cited in Good & weinstein, 1986; Linney & Seidman, 1989; National Commission on Children, 1991) and a sense of safety (Edmonds, 1983, cited in Good & Weinstein, 1986) are the major risk factors in a negative school climate.

Uninvolved Parents

Another factor is parent involvement and interest (Spady, 1976). Parent involvement results in better relations between schools and families (Epstein, 1984). Students see their parents as effective role models who care about them (Carnegie Council on Adolescent Development, 1989). Parent participation in the school may range from classroom visits to more active participation in tutoring, textbook evaluations, and staff evaluations (Irvine, 1988). Improved communication between the school and the family keeps parents informed and provides information for them on how to help their children succeed (Massachusetts Advocacy Center, 1988), resulting in improved family-school relations, student achievement, and attitudes towards school (Carnegie Council on Adolescent Development, 1989).

Work Factors

Early involvement in work may provide an alternative focus for some students and may lead to dropping out or to lowered aspirations for post-secondary education (Ekstrom et al, 1986; Steinberg, 1989). Ekstrom and her colleagues (1986) found that 27 percent of male dropouts cited employment as the reason for leaving school and 14 percent cited family support obligations.

Long Work Hours

While part-time work has some developmental benefits for adolescents, employment while still in high school may present problems for those who work excessively long hours. Working long hours may lead to more school absences, less time spent on homework, choice of easier classes, cheating on tests, and lower teacher expectations (Steinberg et al, n.d.; Steinberg, 1989).

Community Factors

Low Socioeconomic Level

The general socioeconomic level in a community appears to be related to school success. 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 poor community may be mediated by parenting style, and by social relations with persons outside the community via kin and friend networks as well as via church and other organizational memberships (Steinberg, 1988).

Studies that have compared the relative influence of the family and the community have been inconclusive. Some assert that community effects may be largely explained by individual family factors such as parental resources. Looking at school characteristics as indicators of neighborhood characteristics, Mayer & Jencks (1989) find that the average socioeconomic status in the high school does not affect whether a particular student goes to college or not, except in its correlation with the socioeconomic status of the individual's parents. Looking more directly at neighborhood characteristics, they also find that individual test scores explain most of the neighborhood socioeconomic effect. On the other hand, recent preliminary

findings by Dornbusch and Ritter (1991) suggest that the average parenting style in a community may outweigh the influence of an individual adolescent's own parents' style on his or her grades.

There is also agreement about the relative impact of community characteristics on youth of different socioeconomic statuses. Dornbusch and Ritter (1991) find that community norms have less impact on parents with less education, while Steinberg (1988) reviews evidence that community support is especially beneficial for adolescents from disadvantaged family backgrounds.

Lack of Community Resources

The amount of funding spent on education by the local government appears to be related to effectiveness of education, but the processes are unclear (Spady, 1976; National Commission on Children, 1991). School districts with more funding have lower dropout rates (Center for the Study of Social Policy, 1986). Inadequate funding for a school district may impair recruitment of high quality teachers as well as maintenance of textbooks and other curriculum materials (National Commission on Children, 1991). Spady's research review (1976) is inconclusive about whether expenditures affect student outcomes because of investments in teachers, materials, administrators, or facilities. Studies in this area have been additionally flawed in not considering the possibility that higher ability students might be drawn disproportionately to high quality school districts confusing selection effects with expenditure effects.

One factor which contributes to the funding ability of a community is the presence of industry, which creates a strong tax base (Spady, 1976). In addition to public funding for education, local business and other organizations also provide community resources such as money, equipment, and expertise (Irvine, 1988). In Milwaukee, a program that obtained computers from local business donations demonstrated a mean reading improvement of 3 grade levels and mean math improvement of 3.9 grade levels after 100 hours of computer-assisted instruction (Mann, 1986). The Boston Compact involved public schools, local businesses, and nearby universities in an attempt to prevent high school students from dropping out. In its first phase, the program reported improvements in test scores and youth employment, but no change in the dropout rate. Efforts were planned for the next phase to focus more on school retention (Hargroves, 1986). In Atlanta, volunteers from the business community have served as mentors in a successful program to promote academic success (Mann, 1986).

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