

- National Center for Education Statistics. (1975). *Statistics of state school systems: 1971-72*. Washington, DC: U.S. Department of Health, Education, and Welfare, Education Division.
- Pallas, A. M. (1989). Conceptual and measurement issues in the study of school dropouts. In K. Namboudin & R. G. Corwin (Eds.), *Research in sociology of education and socialization* (vol. 8). Greenwich, CT: JAI Press.
- Singleton, C. (1985). Let there be F's. In B. Gross & R. Gross (Eds.), *The great school debate: Which way for American education?* New York: Simon and Schuster.
- U.S. Department of Education. (2000). *Digest of education statistics: 1999* (table 8) (NCES 2000-031). Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.
- U.S. Department of Commerce. U.S. Census Bureau. (2000). *Current population survey design and methodology* (Technical Paper #63). Unpublished manuscript.
- Wingee, M., Marker, D., Henderson, A., Aronstam, B., & Young, L. H. (2000). *A recommended approach to providing high school dropout and completion rates at the state level* (NCES 2000-305). Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

CHAPTER 6

Why Students Drop Out of School

RUSSELL W. RUMBERGER

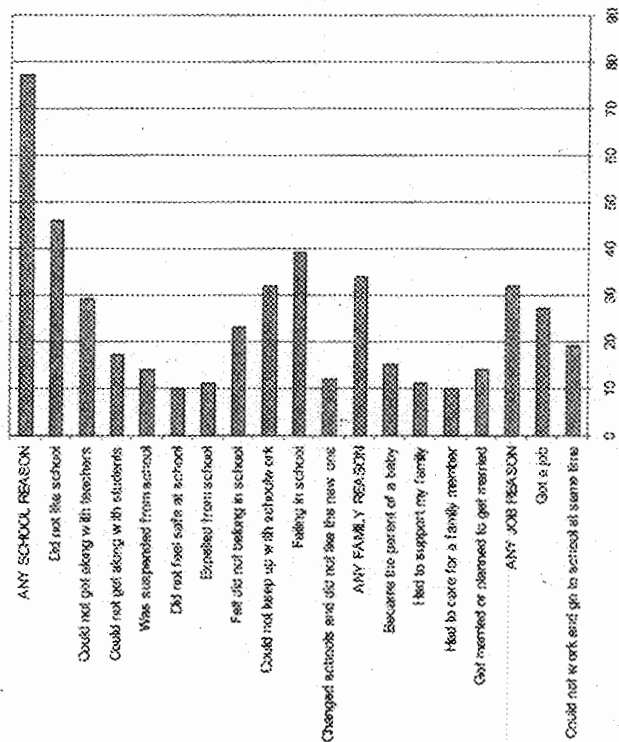
Reducing the number of high school dropouts has become a national policy concern. One of the National Education Goals adopted in 1990 was to increase the high school graduation rate to 90 percent by 2000, with a related objective to eliminate the existing gap in high school graduation rates between minority and nonminority students (U.S. Department of Education, 1990). More recently, the federal No Child Left Behind (NCLB) Act of 2001 requires states to incorporate graduation rates in their accountability systems for schools and districts (U.S. Department of Education, 2004). As a result of this policy focus, numerous programs at the federal, state, and local levels have been established to help reduce the number of students who drop out of school.

Understanding why students drop out of school is the key to addressing this major educational problem. Yet identifying the causes of dropping out is extremely difficult to do because, like other forms of educational achievement (e.g., test scores), it is influenced by an array of proximal and distal factors related to both the individual student and to the family, school, and community settings in which the student lives.

This chapter examines why students drop out of school; a later chapter (Chapter 11) addresses what can be done about it. This research review focuses on both individual and institutional factors, and how these factors can or cannot explain differences in dropout rates among social groups.

The complexity of this phenomenon is illustrated by the variety of reasons that dropouts report for leaving school. Dropouts from the National Education Longitudinal Study of students who were in eighth grade in 1988 reported a wide variety of reasons for leaving school: school-related reasons were mentioned by 77 percent, family-related reasons were mentioned by 34 percent, and work-related reasons were mentioned by 32 percent (see Figure 1). The most specific reasons were "did not like school" (46 percent), "failing school" (39 percent), "could not get along with teachers" (29 percent), and "got a job" (27

FIGURE 1
Reasons Given for Dropping Out of School:
Dropouts from the High School Graduating Class of 1992*



*Reasons are reported as the percentage of respondents who indicated that reason. Respondents could report as many reasons as they wanted.
Source: Reikold, Gels, and Kaufman (1998, Table 6).

percent). But these reasons do not reveal the underlying causes of why students quit school, particularly those causes or factors from long ago that may have contributed to students' attitudes, behaviors, and school performance immediately preceding their decision to leave school. Moreover, if many factors contribute to this phenomenon over a long period of time, it is virtually impossible to demonstrate a causal connection between any single factor and the decision to quit school. Instead, scholars are limited to developing theories and testing conceptual models based on a variety of social science disciplines and using a variety of qualitative and quantitative research methods.

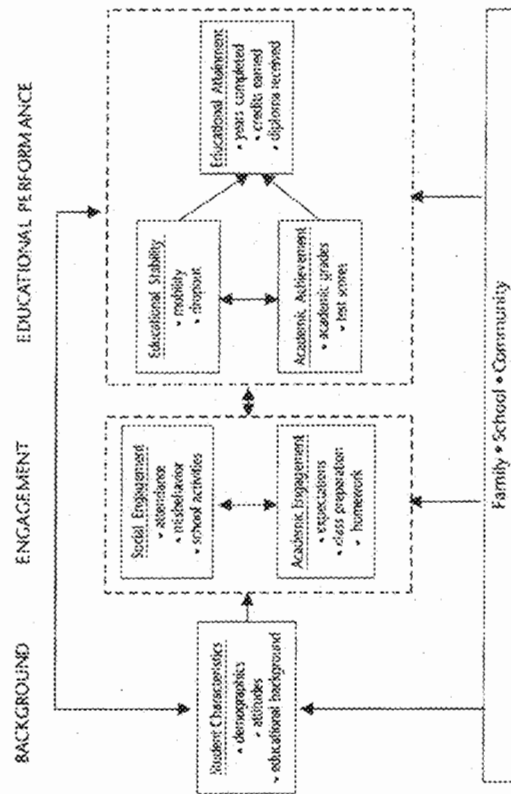
A number of theories have been advanced to understand the specific phenomenon of dropping out (e.g., Finn, 1989; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). Other theories have been used to explain dropping out as

part of the larger phenomenon of student achievement (e.g., Coleman, 1988; Newmann, Wehlage, & Lamborn, 1992; Ogbu, 1992).¹ These theories come from a number of social science disciplines—including psychology, sociology, anthropology, and economics—and identify a range of specific factors related to dropping out.² Drawing on these theories, I present two conceptual frameworks that focus on two different perspectives for understanding this phenomenon. One framework is based on an individual perspective that focuses on individual factors associated with dropping out; the other is based on an institutional perspective that focuses on the contextual factors found in students' families, schools, communities, and peers. Both frameworks are useful and, indeed, necessary to understand this complex phenomenon. After presenting each framework and reviewing briefly some empirical evidence that highlights some of the most important factors within each framework, I will discuss the extent to which these frameworks can be used to explain differences in dropout rates among social groups, particularly racial and ethnic minorities. In most cases, the factors identified in this review are derived from multivariate statistical models that control for a number of other predictive factors, suggesting that the identified factor has a direct, causal connection with dropping out independent of other causal factors. Yet statistical models can only suggest causal connections, not prove them, so it is better to think of these factors as predictive of dropping out or increasing the risk of dropping out.

INDIVIDUAL PERSPECTIVE

The first framework is based on an individual perspective that focuses on the attributes of students—such as their values, attitudes, and behaviors—and how these attributes contribute to their decisions to quit school. The conceptual framework, illustrated in Figure 2, views the attitudes and behaviors of students through a particular concept—student engagement (Fredricks, Blumenfeld, & Paris, 2004). Several theories have been developed in recent years that suggest that dropping out of school is but the final stage in a dynamic and cumulative process of disengagement (Newmann et al., 1992; Wehlage et al., 1989) or withdrawal (Finn, 1989) from school. Although there are some differences among these theories, they all suggest that there are two dimensions to engagement: academic engagement, or engagement in learning, and social engagement, or engagement in social dimensions of schooling (Wehlage refers to this as school membership). Engagement is reflected in students' attitudes and behaviors with respect to both the formal aspects of school (e.g., classrooms and school activities) and the informal ones (e.g., peer and adult relationships). Both dimensions of engagement can influence the decision to withdraw from

FIGURE 2
Conceptual Framework for Studying Student Educational Performance



Source: Rumberger and Larson (1998).

school. For example, students may withdraw from school because they quit doing their schoolwork (academic engagement), or because they do not get along with their peers (social engagement).³

The framework also suggests that dropping out represents one aspect of three interrelated dimensions of educational achievement: 1) academic achievement, as reflected in grades and test scores; 2) educational stability, which reflects whether students remain in the same school (school stability) or remain enrolled in school at all (enrollment stability); and 3) educational attainment, which is reflected by years of schooling completed and the completion of degrees or diplomas. The framework suggests that educational attainment is dependent on both educational stability and academic achievement. That is, students who either interrupt their schooling by dropping out or changing schools, or who have poor academic achievement in school, are less likely to graduate or complete that segment of schooling.

The framework also posits that engagement and educational achievement are influenced by students' backgrounds prior to entering school, including their educational aspirations and past achievement. Finally, the framework suggests reciprocal relationships among these factors that change over time. Changes in

engagement, stability, and achievement as students progress through school affect later attitudes, social relationships, and school experiences. Thus within this framework, student stability is viewed as both a cause and a consequence of engagement in school.

A large body of empirical research has identified many individual predictors of dropping out that are consistent with this framework. Only some of the most important ones will be reviewed here.

The first group of factors has to do with the relationship between dropping out and other dimensions of educational achievement. Numerous studies have found that poor academic achievement is a strong predictor of dropping out (Ekstrom, Goertz, Pollack, & Rock, 1986; Goldschmidt & Wang, 1999; Rumberger, 1995; Rumberger & Larson, 1998; Swanson & Schneider, 1999; Wehlage & Rutter, 1986).

Student engagement has also been shown to predict dropping out even after controlling for the effects of academic achievement and student background. Absenteeism, the most common indicator of overall student engagement, and student discipline problems are both associated with dropping out (Bachman, Green, & Wirtanen, 1971; Carbonaro, 1998; Ekstrom et al., 1986; Goldschmidt & Wang, 1999; Rumberger, 1995; Rumberger & Larson, 1998; Swanson & Schneider, 1999; Wehlage & Rutter, 1986). These studies support the idea that dropping out is influenced by both the social and academic experiences of students. In other words, dropping out is not simply a result of academic failure.

Student mobility is also associated with dropping out of school. A growing body of research suggests that both residential mobility (changing residences) and school mobility (changing schools) increases the risk of dropping out of high school (Astome & McLanahan, 1994; Haveman, Wolfe, & Spaulding, 1991; Rumberger, 1995; Rumberger & Larson, 1998; Swanson & Schneider, 1999; Teachman, Paasch, & Carver, 1996). Some scholars have argued that student mobility represents a less severe form of student disengagement or withdrawal from school (Lee & Burkam, 1992; Rumberger & Larson, 1998). In fact, one study found that the majority of high school dropouts changed high schools at least once before withdrawing, while the majority of high school graduates did not (Rumberger, Larson, Palardy, Ream, & Schleicher, 1998).

Other experiences in high school are also associated with dropping out. One of them is high school employment. Several studies have found that working long hours (more than 20 hours) during high school can increase the likelihood of dropping out and does not vary among gender, race, or socioeconomic status (SES) groups (Goldschmidt & Wang, 1999; Marsh, 1991; Warren & Lee, 2003), although the impact of working in high school depends on the type

of job held and on the student's gender (McNeal, 1997a). But although these studies control for other predictors of dropping out, there is still the possibility that the relationship between high school employment and dropping out is not causal, but rather could reflect a reduced interest and disengagement from school and increased interest in work (Shanahan & Flaherty, 2001; Warren, 2002).

Another activity associated with dropping out is teenage pregnancy. Several studies have examined the relationship between teenage pregnancy and school dropouts. Studies that consider teenage pregnancy an exogenous decision independent of the decision to drop out generally show that childbearing has a negative effect on high school completion (e.g., Meit & Marsiglio, 1985; Pirog & Magee, 1997), whereas studies that consider teenage pregnancy as an endogenous factor—such that both teenage pregnancy and dropping out are influenced by a set of unobservable factors—find childbearing has no independent effect on high school completion (Evans, Oates, & Schwab, 1992; Ribur, 1994; Upchurch & McCarthy, 1990).

Finally, a number of student background characteristics have been shown to predict withdrawal from school. Several demographic variables have been examined in the literature: gender, race and ethnicity, immigration status, and language background (Fernandez, Paulsen, & Hirano-Nakanishi, 1989; Fry, 2003; Goldschmidt & Wang, 1999; Rumberger, 1983, 1995; Rumberger & Larson, 1998; Steinberg, Blinde, & Chan, 1984; Swanson & Schneider, 1999; Velez, 1989). These factors are discussed in more detail below. Other individual attributes have also been shown to predict dropping out, including disabilities and low educational and occupational aspirations (Ekstrom et al., 1986; Kortering, Haring, & Klockars, 1992; Newmann et al., 1992; Rumberger, 1995; Rumberger & Larson, 1998; Swanson & Schneider, 1999; Wehlage & Rutter, 1986).

As mentioned earlier, the framework is based on the idea that student disengagement and withdrawal from school is a long-term process that can be influenced by students' early school experiences. Several studies, based on longitudinal studies of cohorts of students, have examined the predictors of dropping out from as early as early childhood (Alexander, Entwistle, & Horsey, 1997; Alexander, Entwistle, & Kabbini, 2001; Barrington & Hendricks, 1989; Cairns, Cairns, & Necherman, 1989; Ensminger & Slusack, 1992; Gamier, Stein, & Jacobs, 1997; Jimerson, Egedand, Stroufe, & Carlson, 2000; Morris, Ekert, & Lenz, 1991; Roderick, 1993). These studies found that early academic achievement and engagement (e.g., attendance, misbehavior) in elementary and middle school predicted eventual withdrawal from high school. One longitudinal study of 143 at-risk children found that the quality of caregiving at 12 and 40

months of age could significantly discriminate between dropouts and graduates even after controlling for other early predictors, such as problem behaviors in first grade (Jimerson, et al., 2000). Studies also show that early risk factors are compounded, such that the more risk factors the students experience over their schooling careers, the greater their likelihood of dropping out (Alexander et al., 2001).

One additional indicator of prior school performance has received considerable attention of late—retention. Historically, a large number of students are retained in school each year. Data from the National Education Longitudinal Study suggest that about one in five eighth graders in 1988 had been retained at least once since first grade (Rumberger, 1995, Table 1). As more states end social promotion and institute high school exit examinations, this number will no doubt rise. Already in Texas, which has instituted both policies, one out of every six ninth-grade students in 1996–1997 was retained (Texas Education Agency, 1998, Appendix A). Although some recent studies have suggested that retention may have some positive effects on academic achievement (Alexander, Entwistle, & Dauber, 1994; Roderick, Bryk, Jacob, Easton, & Allensworth, 1999), virtually all the empirical studies to date suggest that retention, even in lower elementary grades, significantly increases the likelihood of dropping out (Goldschmidt & Wang, 1999; Grissom & Shepard, 1989; Jimerson, 1999; Kaufman & Bradby, 1992; Roderick, 1994; Roderick, Napaoka, Bacon, & Easton, 2000; Rumberger, 1995; Rumberger & Larson, 1998). For example, Rumberger (1995) found that students who were retained in grades 1 to 8 were four times more likely to drop out between grades 8 and 10 than students who were not retained, even after controlling for socioeconomic status, eighth-grade school performance, and a host of background and school factors. A recent literature review of seventeen studies confirms these findings (Jimerson, Anderson, & Whipple, 2002). Yet one recent study suggests that grade retention may also be an endogenous factor that does not exert an independent influence on dropping out (Eide & Showalter, 2001).

INSTITUTIONAL PERSPECTIVE

While the first framework can provide a way to understand dropping out from an individual perspective, individual attitudes and behaviors are shaped by the institutional settings where people live. This latter perspective is common in such social science disciplines as economics, sociology, and anthropology. Historically it has been less common in psychology, which has focused more on human behavior itself and less on the social environment in which behavior takes place. But over the last decade a new paradigm has emerged in the field of devel-

operational psychology called developmental behavioral science (Jessor, 1993). This paradigm, illustrated in Figure 3, recognizes that the various settings or contexts in which students live—families, schools, and communities—all shape their behavior. This framework was used by the National Research Council Panel on High-Risk Youth (1993), which argued that too much emphasis has been placed on high-risk youth and their families, and not enough on the high-risk settings in which they live and go to school. It was also used by the National Research Council Committee on Increasing High School Students' Engagement (2004), which showed how schools, families, communities, and peers all contributed to students' engagement in learning. This view reflects the new emphasis on contexts and not simply individuals.

Empirical research on dropouts has identified a number of factors within students' families, schools, and communities (and peers) that predict dropping out. Again for brevity, only some of the most important ones are reviewed below.

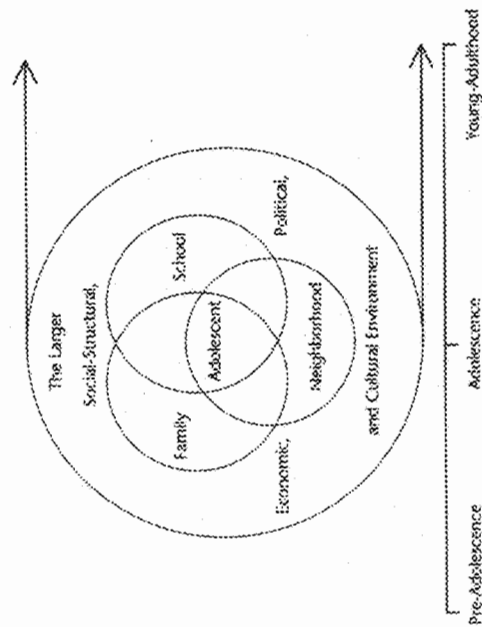
Family Factors

Family background is widely recognized as the single most important contributor to success in school. Ever since early work by Coleman, Jencks, and others found that family background alone could explain much of the variation in educational outcomes (Coleman et al., 1966; Jencks et al., 1972), virtually all research has found that family background still exerts a powerful, independent influence on student achievement. But what aspects of family background matter and how do they influence student achievement?

Much of the empirical research has focused on the *structural* characteristics of families, such as socioeconomic status and family structure. Research has consistently found that socioeconomic status, most commonly measured by parental education and income, is a powerful predictor of school achievement and dropout behavior (Bryk & Thum, 1989; Ekstrom et al., 1986; McNeal, 1999; Pong & Ju, 2000; Rumberger, 1983, 1995; Rumberger & Larson, 1998). Research has also demonstrated that students from single-parent families and step-families are more likely to drop out of school than students from two-parent families (Astone & McLanahan, 1991; Ekstrom et al., 1986; Goldschmidt & Wang, 1999; McNeal, 1999; Rumberger, 1983, 1995; Rumberger & Larson, 1998; Teachman et al., 1996). However, one recent study found that the dissolution of two-parent families did not increase the likelihood of dropping out, apart from its effects on income loss (Pong & Ju, 2000).

Until recently, there has been relatively little research that has attempted to identify the underlying processes through which family structure influences dropping out. The powerful effects of parental education and income are gener-

FIGURE 3
The Influence of Context on Adolescent Development over Time



Source: Jessor (1993, Figure 2).

ally thought to support human capital theory. According to human capital theory, parents make choices about how much time and other resources to invest in their children based on their objectives, resources, and constraints, which in turn affect their children's tastes for education (preferences) and cognitive skills (Haveman & Wolfe, 1994). Parental income, for example, allows parents to provide more resources to support their children's education, including access to better quality schools, afterschool and summer school programs, and more support for learning within the home.

Sociologist James Coleman (1988) argued that human capital (parental education) and financial capital (parental income) were insufficient to explain the connection between family background and school success. He argued that social capital, which is manifested in the relationships parents have with their children, other families, and the schools, also influences school achievement independent of the effects of human and financial capital. Although Coleman relied on indirect measures of social capital (e.g., family structure) in his research, some recent studies with more direct measures of family relationships have confirmed that strong relationships between students and parents reduce the odds of dropping out of school (McNeal, 1999; Teachman et al., 1996).⁴ Social capital actually represents part of a larger research literature on the role of families in promoting student achievement, including parental involvement in schools

(Epstein, 1990; Sui-Chu & Williams, 1996) and types of parental practices known as "parenting style" (Baumrind, 1991; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Steinberg, Lamborn, Dornbusch, & Darling, 1992). Empirical studies have found that students whose parents monitor and regulate their activities, provide emotional support, encourage independent decisionmaking (known as authoritative parenting style), and are generally more involved in their schooling are less likely to drop out of school (Astone & McLanahan, 1991; Rumberger, 1995; Rumberger et al., 1996).

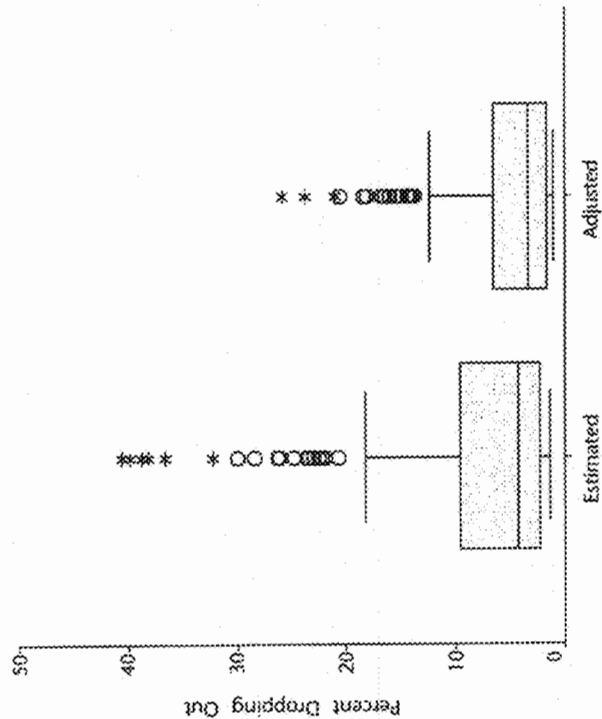
School Factors

It is widely acknowledged that schools exert powerful influences on student achievement, including dropout rates. But demonstrating the influence of schools and identifying the specific school factors that affect student achievement present some methodological challenges. The biggest challenge is disentangling the effects of student and family background from the effects of school factors. Recent developments in statistical modeling have allowed researchers to estimate school effects more accurately after controlling for the individual background characteristics of students (Lee, 2000; Raudenbush & Williams, 1995).

The overall influence of schools on dropping out is illustrated in Figure 4. The left panel shows the estimated tenth grade dropout rates for a sample of 247 urban and suburban high schools in 1990. The median dropout rate is 4.2 percent, which means about four out of every 100 tenth-grade students dropped out of the "average" high school in the sample. However, the dropout rate for individual schools varied from less than 2 percent to over 40 percent. At least some of that variability, however, is due to differences in the background characteristics of students. The right panel shows tenth-grade dropout rates after adjusting for differences in the background characteristics of students. Although less variable than the unadjusted rates, the adjusted dropout rates still show widespread differences among schools. This suggests that schools influence dropout rates.

But what factors account for these differences? Four types of school characteristics have been shown to influence student performance: 1) student composition, 2) resources, 3) structural characteristics, and 4) processes and practices. The first three factors are sometimes considered as school inputs by economists and others who study schools because they refer to the "inputs" into the schooling process that are largely "given" to a school and therefore not alterable by the school itself (Hanushek, 1989). The last factor refers to practices and policies that the school does have control over and that can be used to judge a school's effectiveness (Shavelson, McDonnell, Oakes, & Carey, 1987). Yet all the characteristics of schools could be altered through policy.

FIGURE 4
Distribution of Estimated and Adjusted Two-Year Dropout Rates
for 247 Urban and Suburban High Schools, 1990-1992



Note: The distributions are represented by box plots, where the bottom edge of the box represents the bottom 25th percentile of the distribution, the solid line within the box represents the 50th percentile or median of the distribution, and the top of the box represents the 75th percentile of the distribution. Hence the middle 50 percent of the values lie within the box. The line extending from the bottom edge of the box marks the lowest value in the distribution and the line extending from the top edge of the box represents 1.5 times the length of the box (which is referred to as the interquartile range). The circles above the top line represent individual outlier values that are outliers (more than 1.5 box lengths) and less than 3 box lengths) and the stars (*) represent individual extreme values (more than 3 box lengths). Estimated rates were derived from an IBM one-way ANOVA model and unit-specific empirical Bayes residual estimates for each school. Adjusted rates were derived from a fixed coefficient model controlling for student background characteristics and student composition centered on the grand mean and unit-specific empirical Bayes residual estimates for each school.

Source: Rumberger and Thomas (2000, Figure 2).

Students Composition: Student characteristics not only influence student achievement at an individual level, but also at an aggregate or social level. That is, the social composition of students in a school can influence student achievement apart from the effects of student characteristics at an individual level (Gamoran, 1992; Jencks & Mayer, 1990). Several studies have found that the social composition of schools predicts school dropout rates even after control-

ling for the individual effects of student background characteristics (Bryk & Thum, 1989; Mayer, 1991; McNeal, 1997b; Rumberger, 1995; Rumberger & Thomas, 2000).

School Resources: There is currently considerable debate in the research community about the extent to which school resources contribute to school effectiveness (Hanushek, 1994, 1997; Hedges, Laine, & Greenwald, 1994). Several studies suggest that resources influence school dropout rates. Three studies found that the pupil/teacher ratio had a positive and significant effect on high school and middle school dropout rates even after controlling for a host of individual and contextual factors that might also influence these rates (McNeal, 1997b; Rumberger, 1995; Rumberger & Thomas, 2000). One of those studies found that the higher the quality of the teachers as perceived by students, the lower the dropout rate, while the higher the quality of teachers as perceived by the principal, the higher the dropout rate (Rumberger & Thomas, 2000).

School Structure: There is also considerable debate in the research community about the extent to which structural characteristics (e.g., size, location), particularly type of control (public, private), contribute to school performance. This issue has been most widely debated with respect to one structural feature—public and private schools (Bryk, Lee, & Holland, 1993; Chubb & Moe, 1990; Coleman & Hoffer, 1987). Although widespread achievement differences have been observed among schools based on structural characteristics, what remains unclear is whether structural characteristics themselves account for these differences or whether they are related to differences in student characteristics and school resources often associated with the structural features of schools. Most empirical studies have found that dropout rates from Catholic and other private schools are lower than dropout rates from public schools, even after controlling for differences in the background characteristics of students (Bryk & Thum, 1989; Coleman & Hoffer, 1987; Evans & Schwab, 1995; Neal, 1997; Rumberger & Thomas, 2000; Sauder & Krautmann, 1995). Yet empirical studies have also found that students from private schools typically transfer to public schools instead of or before dropping out, meaning that student turnover rates in private schools are not statistically different than turnover rates in public schools (Lee & Burkam, 1992; Rumberger & Thomas, 2000). School size also appears to influence dropout rates both directly (Lee & Burkam, 2003; Rumberger & Palardy, 2004; Rumberger & Thomas, 2000) and indirectly (Bryk & Thum, 1989), although the largest direct effect appears to be in low-SES schools (Rumberger, 1995). This latter finding is consistent with case studies of schools with effective dropout-prevention programs, which suggest that small

schools are more likely to promote the engagement of both students and staff (Wehlage et al., 1989).

School Policies and Practices: Despite all the attention and controversy surrounding the previous factors associated with school effectiveness, many people believe that the area of school processes holds the most promise for understanding and improving school performance. Several studies found academic and social climate—as measured by school attendance rates, students taking advanced courses, and student perceptions of a fair discipline policy—predict school dropout rates, even after controlling for the background characteristics of students and the resource and structural characteristics of schools (Bryk & Thum, 1989; Rumberger, 1995; Rumberger & Palardy, 2004; Rumberger & Thomas, 2000). Another study using one of the same datasets but different sets of variables and statistical techniques found no effect of academic or social climate on high school dropout rates, after controlling for the background characteristics of students, social composition, school resources, and school structure (McNeal, 1997b). Two more recent studies found that school social capital—as reflected in positive relationships between students and teachers—reduced the risk of dropping out, especially among high-risk students (Croninger & Lee, 2001; Lee & Burkam, 2003).

Current research literature on school dropouts suggests two ways that schools affect student withdrawal. One way is indirectly, through general policies and practices that are designed to promote the overall effectiveness of the school. These policies and practices, along with other characteristics of the school (student composition, size, etc.), may contribute to *voluntary* withdrawal by affecting conditions that keep students engaged in school. This perspective is consistent with several existing theories of school dropouts and departure that view student disengagement as the precursor to withdrawal (Finn, 1989; Wehlage et al., 1989).

Another way that schools affect turnover is directly, through explicit policies and conscious decisions that cause students to *involuntarily* withdraw from school. These rules may concern low grades, poor attendance, misbehavior, or being over age, which can lead to suspensions, expulsions, or forced transfers.⁵ This form of withdrawal is school initiated and contrasts with the student-initiated form mentioned above. This perspective considers a school's own agency, rather than just that of the student, in producing dropouts and transfers. One metaphor that has been used to characterize this process is discharge: "students drop out of school, schools discharge students" (Kiehl, 1999, p. 231). Several studies, mostly based on case studies, have demonstrated how schools contribute to students' involuntary departure from school by systematically excluding

and discharging "troublemakers" and other problematic students (Bowditch, 1993; Fine, 1991; Richl, 1999).

One specific practice that schools can use to influence dropout rates is the requirement that students pass a test in order to receive a diploma (National Research Council, 1999). Such requirements can be set by high schools themselves, but more typically they are set by school districts and states. Historically, some schools and districts required students to pass a so-called minimum competency exam. More recently, many states have instituted high school exit exams that test students' proficiency in a number of state-mandated academic standards. A number of studies have examined the impact of such testing policies on the likelihood of dropping out (Carter, 1989; Griffin & Heidorn, 1996; Jacob, 2001; Lillard & DeCicca, 2001; Muller, 1998). The results of these studies are quite mixed: some found that such requirements increased the likelihood of dropping out (Carter, 1989; Lillard & DeCicca, 2000); some found no impact on dropping out (Muller, 1998); and some found differential effects — one finding that they only increased dropout rates among better students (Griffin & Heidorn, 1996) and another finding that they only increased dropout rates among lowest-ability students (Jacob, 2001).

Community and Peers

In addition to families and schools, communities and peer groups can influence students' withdrawal from school. Several studies have shown that having friends or siblings who have dropped out increases the likelihood of dropping out (Carbonaro, 1998; Ellenbogen & Chamberland, 1997; Rumberger & Thomas, 2000). Research has also shown that having high-achieving friends can reduce the likelihood of dropping out of school (Kasen, Cohen, & Brook, 1998).

There is at least some empirical evidence that differences in neighborhood characteristics can help explain differences in dropout rates among communities apart from the influence of families (Brooks-Gunn, Duncan, & Aber, 1993; Clark, 1992; Crane, 1991; Ensminger, Lamkin, & Jacobson, 1996; South, Baumer, & Lutz, 2003). Crane (1991) further argues that there is a threshold or tipping point on the quality of neighborhoods that results in particularly high dropout rates in the lowest-quality neighborhoods. But Clark (1992), using more recent data, found no evidence of a tipping point, but did find that the odds of a boy dropping out of school increased substantially as the neighborhood poverty rate increased from zero to 5 percent. Moreover, two studies found that living in a high-poverty neighborhood was not necessarily detrimental to completing high school, but rather that living in an affluent neighborhood was beneficial to school success (Brooks-Gunn et al., 1993; Ensminger, Lamkin, & Jacobson, 1996).

While these studies find that communities do influence dropout rates, they are unable to explain how they do so. Poor communities may influence child and adolescent development through the lack of resources (playgrounds and parks, afterschool programs) or negative peer influences (Brooks-Gunn et al., 1997; Hallinan & Williams, 1990; Wilson, 1987). Community residence may also influence parenting practices over and above parental education and income (Klebanov, Brooks-Gunn, & Duncan, 1994). Finally, students living in poor communities may also be more likely to be exposed to negative peer influences, such as having dropouts as friends, which increase the likelihood of dropping out of school (Carbonaro, 1998; South, Baumer, & Lutz, 2003). Yet the impact of peers varies among youth, depending on both family circumstances and their own characteristics (Crowder & South, 2003; Farmer et al., 2003).

Another way that communities can influence dropout rates is by providing employment opportunities both during and after school. Relatively favorable employment opportunities for high school dropouts, as evidenced by low neighborhood unemployment rates, appear to increase the likelihood that students will drop out, while more favorable economic benefits of graduating, as evidenced by the higher salaries of high school graduates compared to dropouts, tend to lower dropout rates (Bickel & Papagiannis, 1988; Clark, 1992; Rumberger, 1983).

EXPLAINING RACIAL AND ETHNIC DIFFERENCES IN DROPOUT RATES

One of the most challenging educational issues facing the United States is understanding and solving the persistent disparities in achievement among racial and ethnic groups. While much of the focus on this issue has centered on student achievement as measured by grades and test scores (e.g., Jencks & Phillips, 1998; Steinberg, Dombusch, & Brown, 1992), there has been considerable attention to understanding and explaining differences in dropout rates as well (Fernandez, Paulsen, & Hirano-Nakanishi, 1989; Ogbu, 1989).

Two general approaches have been used to explain differences in dropout rates among racial and ethnic groups. The first approach is based on the idea that differences in dropout rates and other measures of educational achievement can be explained largely by differences in resources and by human and social capital frameworks that suggest that these factors affect achievement similarly for all groups. Those groups that lack these resources, in this approach, are more at risk for poor outcomes. This approach was used by the National Research Council Panel on High-Risk Youth, which used its study on the high-risk settings of family, school, and community to explain the poor outcomes of

high-risk and minority students (National Research Council, 1993). Indeed, the family, school, and community conditions for racial and ethnic minorities in the United States are generally much worse than for the white majority. To take but one example, child poverty rates for blacks and Hispanics are more than twice as high as child poverty rates for whites (U.S. Department of Education, 2003, Table 21). As a result, minority students are more likely to attend high-poverty schools that have fewer resources and poorer learning environments (U.S. Department of Education, 1997).⁶ Several empirical studies of dropouts have found that at least half of the observed differences in dropout rates between racial groups can be attributed to differences in family and community characteristics (Fernandez et al., 1989; Rumberger, 1983; Velez, 1989). Another study found that up to half of the observed differences in dropout rates between whites and minorities would be reduced if racial groups attended schools with similar racial and socioeconomic compositions (Mayer, 1991).

The second approach is based on the idea that differences in resources and conventional theories are insufficient to explain differences in achievement among racial and ethnic groups. In particular, critics of the first approach argue that it fails to explain why some minority groups with similar levels of socioeconomic background succeed, while other groups do not. Instead, they argue that sociocultural factors—particularly cultural differences in values, attitudes, and behaviors—help explain why some racial and ethnic minorities are successful in U.S. schools and others are not.

Ogbu (1989, 1992), one of the best-known proponents of the sociocultural perspective, argues that minorities can be classified into two groups: 1) voluntary minorities, who came to the United States by their own choosing (e.g., European Americans and Asian Americans); and 2) involuntary minorities, who were brought into the United States against their will, either through immigration or domination (e.g., African Americans and early Mexican Americans). Voluntary and involuntary minorities view school success very differently: "Voluntary minorities do not perceive learning the attitudes and behaviors required for school success as threatening their own culture, language, and identities, [while] . . . involuntary minorities do not seem to be able or willing to separate attitudes and behaviors that result in academic success from those that may result in linear acculturation or replacement of their cultural identity with white American cultural identity" (Ogbu, 1992, pp. 9–10). Although Ogbu's perspective offers an appealing explanation of minority groups' differences in achievement, empirical support for this perspective is limited (Ainsworth-Darnell & Downey, 1998; Cook & Ludwig, 1997; Farkas, Grobe, Sheehan, & Shuan, 1990; Gibson, 1997; Marute-Bianchi, 1986; Mickelson, 1990).

Other sociocultural perspectives also suggest that differences in attitudes and behaviors of students, peers, and families help explain racial and ethnic differences in achievement. For example, Steinberg, Dombusch, and Brown (1992) demonstrate that Asians are more successful in school than other ethnic groups because of two cultural beliefs: 1) a belief that not getting a good education will hurt their chances for future success (rather than a belief that a good education will help their chances); and 2) a belief that academic success comes from effort rather than ability or the difficulty of the material.⁷ They also find that the contexts of families, schools, and peers influence the achievement of racial and ethnic groups differently. Other studies have also shown differences among racial and ethnic groups (e.g., Jordon, Lara, & McFarland, 1996; Rumberger, 1995). Steele (1987) and Steele and Aronson (1998) demonstrate that the social stigma of intellectual inferiority among certain cultural minorities (and women in quantitative fields)—referred to as the stereotype threat—contributes to their lower academic achievement. What has yet to be demonstrated empirically is whether these more recent sociocultural perspectives can help explain racial and ethnic differences in dropout rates.

Despite limited empirical evidence, both socioeconomic and sociocultural perspectives may help explain racial and ethnic differences in dropout rates by emphasizing different causal mechanisms. Socioeconomic perspectives focus on the fiscal, human, and social resources of families, schools, and communities and their similar influence on the development of students' values and cognitive abilities across all racial and ethnic groups. Sociocultural perspectives focus on cultural differences in the attitudes and behaviors among racial and ethnic groups that influence school success in both the social and academic arenas.

CONCLUSION

Understanding why students drop out of school is a difficult if not impossible task because, as with other forms of educational achievement, it is influenced by an array of individual and institutional factors. Nonetheless, a review of the theoretical and empirical literature does yield some useful insights into the nature of this problem and what can be done about it. First, dropping out is not simply a result of academic failure, but, rather, often results from both social and academic problems in school. Second, these problems often appear early in students' school careers, suggesting the need for early intervention. Third, these problems are influenced by a lack of support and resources in families, schools, and communities. These findings suggest that reducing dropout rates will require comprehensive approaches both to help at-risk students address the social and academic problems that they face in their lives and to improve the at-risk

settings that contribute to these problems. Does the United States have the capacity and political will to reduce dropout rates and eliminate disparities in dropout rates among racial and ethnic groups?

(For the second part of this research review, see ch. 11.)

NOTES

1. The extent to which general theories of student achievement can be used to explain the specific phenomenon of school dropouts is rarely questioned. Yet theories that may be useful in explaining differences in achievement outcomes, such as test scores or grades may not necessarily be useful in explaining why some students drop out of school, especially to the extent that dropping out is unrelated to academic achievement, as dropout theories suggest.
2. Often the factors associated with dropping out are identified as "risk factors" because they denote characteristics of the individual or environment associated with an increased risk of dropping out. But some scholars have pointed out the need to also identify "protective factors" that promote successful development and buffer the effects of risk factors (e.g., Jessor, 1993; National Research Council, 1993).
3. Because engagement concerns both the academic and social aspects of schooling, it provides a more comprehensive concept than some others, such as motivation or effort, that focus on only the academic aspect of schooling. For an in-depth discussion of these two concepts, see National Research Council (2003, ch. 2).
4. As Pontes (1998) points out, in using the concept of social capital, it is important to distinguish between the relationships themselves and the access to resources that such relationships provide.
5. One specific example is the growth of "zero tolerance" (automatic discharge) for violations of school safety rules (Skiba & Peterson, 1999).
6. Recent reforms may be exacerbating these differences. For example, California's class-size reduction program has increased the disparities in the proportion of fully credentialed teachers between high- and low-poverty schools (Stecher & Bokemeier, 2000, Figure 3.4).
7. Other scholars have also found cultural differences in achievement motivation (Kao & Tienda, 1995; Suárez-Orozco & Suárez-Orozco, 1995).

REFERENCES

- Ainsworth-Damell, J. W., & Downey, D. B. (1998). Assessing the oppositional culture explanation for racial/ethnic differences in school performance. *American Sociological Review*, 63, 536-553.
- Alexander, K. L., Entwistle, D. R., & Horsey, C. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education*, 70, 87-107.
- Alexander, K. L., Entwistle, D. R., & Dauber, S. L. (1994). *On the success of failure: A reexamination of the effects of retention in early grades*. New York: Cambridge University Press.
- Alexander, K. L., Entwistle, D. R., & Kabbani, N. S. (2001). The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record*, 103, 760-882.
- Astone, N. M., & McLanahan, S. S. (1991). Family structure, parental practices and high school completion. *American Sociological Review*, 56, 309-320.
- Astone, N. M., & McLanahan, S. S. (1994). Family structure, residential mobility, and school dropout: A research note. *Demography*, 31, 575-584.
- Bachman, J. G., Green, S., & Wirtanen, I. D. (1971). Dropping out: Problems on symptoms? In *Youth in transition* (Vol. 3). Ann Arbor: University of Michigan, Institute for Social Research.
- Barrington, B. L., & Hendricks, B. (1989). Differentiating characteristics of high school graduates, dropouts, and non-graduates. *Journal of Educational Research*, 82, 309-319.
- Baumrind, D. (1991). Parenting styles and adolescent development. In R. Lerner, A. C. Petersen, & E. Brooks-Gunn (Eds.), *Encyclopedia of adolescence* (pp. 758-772). New York: Garland.
- Bickel, R., & Papagannis, G. (1988). Post-high school prospects and district-level dropout rates. *Youth and Society*, 20, 123-147.
- Bowditch, C. (1993). Getting rid of troublemakers: High school disciplinary procedures and the production of dropouts. *Social Problems*, 40, 493-509.
- Brooks-Gunn, J., Duncan, G. J., & Aber, J. L. (1997). *Neighborhood poverty*. New York: Russell Sage Foundation.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealander, M. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology*, 99, 353-395.
- Byrk, A. S., Lee, V. E., & Holland, P. B. (1993). *Catholic schools and the common good*. Cambridge, MA: Harvard University Press.
- Byrk, A. S., & Thum, Y. M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal*, 26, 353-383.
- Cairns, R. B., Cairns, B. D., & Neherman, H. J. (1989). Early school dropout: Configurations and determinants. *Child Development*, 60, 1437-1452.
- Carbanaro, W. J. (1998). A little help from my friend's parents: Intergenerational closure and educational outcomes. *Sociology of Education*, 71, 295-313.
- Catterall, J. S. (1989). Sweatshops and school dropouts: A national study of tests required for high school graduation. *American Journal of Education*, 98, 1-34.
- Chubb, J. E., & Moe, T. M. (1990). *Politics, markets, and America's schools*. Washington, DC: Brookings Institution.
- Clark, R. L. (1992). *Neighborhood effects on dropping out of school among teenage boys* (Discussion paper). Washington, DC: Urban Institute.
- Coleman, J. S., Campbell, E., Hoxson, C., McPartland, J., Mood, F., Weisfeld, F., & York, R. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 955-980.
- Coleman, J. S., & Hoffer, T. (1987). *Public and private high schools: The impact of communities*. New York: Basic Books.
- Cook, P. J., & Ludwig, E. (1997). Weighing the "burden of acting white": Are there race differences in attitudes toward school. *Journal of Policy Analysis and Management*, 16, 256-278.
- Crane, J. (1991). The epidemic theory of ghettos and neighborhood effects on dropping out and teenage childbearing. *American Journal of Sociology*, 96, 1226-1259.

- Croninger, R., & Lee, V. (2001). Social capital and dropping out of high school: Benefits to at-risk students of teachers' support and guidance. *Teachers College Record, 103*, 548-581.
- Crowder, K., & South, S. J. (2003). Neighborhood distress and school dropout: The variable significance of community context. *Social Science Research, 32*, 659-698.
- Donohue, S. M., Kiner, F. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. *Child Development, 58*, 1244-1257.
- Eide, E. R., & Showalter, M. H. (2001). The effect of grade retention on educational and labor market outcomes. *Economics of Education Review, 20*, 563-576.
- Ekstrom, R. B., Goertz, M. E., Pollack, J. M., & Rock, D. A. (1986). Who drops out of high school and why? Findings from a national study. *Teachers College Record, 87*, 356-373.
- Ellenbogen, S., & Chamberland, C. (1997). The peer relations of dropouts: A comparative study of at-risk and non at-risk youths. *Journal of Adolescence, 20*, 355-367.
- Ensminger, M. E., Lamkin, R. P., & Jacobham, N. (1986). School leaving: A longitudinal perspective including neighborhood effects. *Child Development, 57*, 2400-2416.
- Ensminger, M. E., & Sussnick, A. L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education, 65*, 95-113.
- Epstein, J. L. (1996). Schools and family connections: Theory, research, and implications for integrating sociologies of education and family. *Marriage and Family Review, 15*, 99-126.
- Evans, W. N., Oates, W. E., & Schwab, R. M. (1992). Measuring peer group effects: A study of teenage behavior. *Journal of Political Economy, 100*, 966-991.
- Evans, W. N., & Schwab, R. M. (1995). Finishing high school and starting college: Do Catholic schools make a difference? *Quarterly Journal of Economics, 110*, 941-974.
- Farkas, G., Grobe, R. P., Sheehan, D., & Siuwan, Y. (1990). Cultural resources and school success: Gender, ethnicity, and poverty groups within an urban district. *American Sociological Review, 55*, 127-142.
- Farmer, T. W., Enell, D. B., Lenny, M. C., Trent, H., Bishop, J., & Cairns, B. D. (2003). Individual characteristics, early adolescent peer affiliation, and school dropout: An examination of aggressive and popular group types. *Journal of School Psychology, 41*, 217-232.
- Fernandez, R. M., Paulsen, R., & Hirano-Makanishi, M. (1989). Dropping out among Hispanic youth. *Social Science Research, 18*, 21-52.
- Finn, M. (1991). *Framing dropouts: Notes on the politics of an urban public high school*. Albany: State University of New York Press.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117-142.
- Fry, R. (2003). *Hispanic youth dropping out of U.S. schools: Measuring the challenge*. Washington, DC: Pew Hispanic Center.
- Gartner, H. E., Stein, J. A., & Jacobs, J. K. (1997). The process of dropping out of high school: A 19-year perspective. *American Educational Research Journal, 34*, 395-419.
- Gamoran, A. (1992). Social Factors in Education. In M. C. Alkin (Ed.), *Encyclopedia of Educational Research* (pp. 1232-1229). New York: Macmillan.
- Gibson, M. A. (1997). Compensating the immigrant/immigrant minority typology. *Ambio-polity and Education Quarterly, 28*, 431-454.
- Goldschmidt, P., & Wang, J. (1999). When can schools affect dropout behavior? A longitudinal multilevel analysis. *American Educational Research Journal, 36*, 715-738.
- Griffin, B. W., & Heidorn, M. H. (1996). An examination of the relationship between minimum competency test performance and dropping out of high school. *Educational Evaluation and Policy Analysis, 18*, 243-252.
- Grisson, J. B., & Shepard, L. A. (1989). Repeating and dropping out of school. In L. A. Sheppard & M. L. Smith (Eds.), *Flunking grades: Research and policies on retention* (pp. 34-63). New York: Falmer Press.
- Hallinan, M. T., & Williams, R. A. (1990). Students' characteristics and the peer-influence process. *Sociology of Education, 63*, 122-132.
- Hanushek, E. A. (1989). The impact of differential expenditures on school performance. *Educational Researcher, 18*, 45-51, 62.
- Hanushek, E. A. (1994). Money might matter somewhere: A response to Hedges, Laine, and Greenwald. *Educational Researcher, 23*, 5-8.
- Hanushek, E. A. (1997). Assessing the effects of school resources on student performance: An update. *Educational Evaluation and Policy Analysis, 19*, 131-164.
- Haveman, R., & Wolfe, B. (1994). *Succeeding generations: On the effects of investments in children*. New York: Russell Sage Foundation.
- Haveman, R., Wolfe, B., & Spaulding, J. (1991). Childhood events and circumstances influencing high school completion. *Demography, 28*, 133-157.
- Hedges, L. V., Laine, R. D., & Greenwald, R. (1994). Does money matter? A meta-analysis of studies of the effects of differential school inputs on student outcomes. *Educational Researcher, 23*, 5-14.
- Jacob, B. (2001). Getting tough? The impact of high school graduation exams. *Educational Evaluation and Policy Analysis, 23*, 99-121.
- Jencks, C., Smith, M., Barr, M. J., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. (1972). *Inequality: A re-examination of the effects of family and schooling in America*. New York: Basic Books.
- Jencks, C., & Mayer, S. E. (1990). The social consequences of growing up in a poor neighborhood. In L. Lynn Jr. & M. G. H. McGeeary (Eds.), *Inner-city poverty in the United States* (pp. 111-186). Washington, DC: National Academy Press.
- Jencks, C., & Phillips, M. (1998). *The Black-White test score gap*. Washington, DC: Brookings Institution.
- Jessor, R. (1993). Successful adolescent development among youth in high-risk settings. *American Psychologist, 48*, 117-126.
- Jimerson, S. R. (1999). On the failure of failure: Examining the association between early grade retention and education and employment outcomes during late adolescence. *Journal of School Psychology, 37*, 243-272.
- Jimerson, S., Anderson, G. E., & Whipple, A. D. (2002). Winning the battle and losing the war: Examining the relation between grade retention and dropping out of high school. *Psychology in the Schools, 39*, 441-457.
- Jimerson, S., Egeiland, B., Soule, L. A., & Carlson, B. (2000). A prospective longitudinal study of high school dropout: Examining multiple predictors across development. *Journal of School Psychology, 38*, 525-549.
- Jordan, W. J., Lara, J., & McPartland, J. M. (1996). Exploring the causes of early school dropout among race-ethnic and gender groups. *Youth and Society, 28*, 62-94.
- Kao, G., & Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly, 76*, 1-19.

- Kaseca, S., Cohen, P., & Brook J. S. (1998). Adolescent school experiences and dropout, adolescent pregnancy, and young adult deviant behavior. *Journal of Adolescent Research, 13*, 49-72.
- Kaufman, P., & Bradley, D. (1992). *Characteristics of at-risk students in the NELS: 88*. Washington, DC: U.S. Government Printing Office.
- Klebanov, P. K., Brooks-Gunn, J., & Duncan, G. J. (1994). Does neighborhood and family poverty affect mother's parenting, mental health, and social support. *Journal of Marriage and Family, 56*, 441-455.
- Korring, L., Harting, N., & Klochaks, A. (1992). The identification of high-school dropouts identified as learning disabled: Evaluating the utility of a discriminant analysis function. *Exceptional Children, 58*, 422-435.
- Lee, V. E. (2000). Using hierarchical linear modeling to study social contexts: The case of school effects. *Educational Psychologist, 35*, 125-141.
- Lee, V. E., & Burkam, D. T. (1992). Transferring high schools: An alternative to dropping out? *American Journal of Education, 100*, 428-453.
- Lee, V. E., & Burkam, D. T. (2003). Dropping out of high school: The role of school organization and structure. *American Educational Research Journal, 40*, 373-394.
- Lillard, D. R., & DeCicca, P. P. (2001). Higher standards, more dropouts: Evidence within and across time. *Economics of Education Review, 20*, 459-473.
- Marsh, H. W. (1991). Employment during high school: Character building or a subversion of academic goals? *Sociology of Education, 64*, 172-189.
- Marate-Bianchi, M. E. (1986). Ethnic identities and patterns of school success and failure among Mexican-descent and Japanese-American students in a California high school: An ethnographic analysis. *American Journal of Education, 95*, 233-255.
- Mayer, S. (1991). How much does a high school's racial and socioeconomic mix affect graduation and teenage fertility rates? In C. Jencks & P. Peterson (Eds.), *The urban underclass* (pp. 321-341). Washington, DC: Brookings Institution.
- McNeal, R. R. (1997a). Are students being pulled out of high school? The effect of adolescent employment on dropping out. *Sociology of Education, 70*, 206-220.
- McNeal, R. B. (1997b). High school dropouts: A closer examination of school effects. *Social Science Quarterly, 78*, 209-222.
- McNeal, R. B. (1999). Parental involvement in social capital: Differential effectiveness on success achievement, vacancy, and dropping out. *Social Forces, 78*, 117-144.
- Mickelson, R. A. (1990). The attitude-achievement paradox among black adolescents. *Sociology of Education, 63*, 44-61.
- Morris, J. D., Ehren, B. J., & Lent, B. K. (1991). Building a model to predict which fourth through eighth graders will drop out of high school. *Journal of Experimental Education, 58*, 286-293.
- Moyn, F., & Maraviglio, W. (1985). Early childbearing and completion of high school. *Family Planning Perspectives, 17*, 234-237.
- Muller, C. (1998). The minimum competency exam requirement, teachers' and students' expectations and academic performance. *Social Psychology of Education, 2*, 199-216.
- National Education Goals Panel. (1999). *National Education Goals report: Building a nation of learners, 1999*. Washington, DC: U.S. Government Printing Office.
- National Research Council, Panel on High-Risk Youth. (1993). *Loosing generations: Adolescent in high-risk settings*. Washington, DC: National Academy Press.
- National Research Council, Committee on Appropriate Test Use. (1999). *High stakes: Testing for tracking, promotion, and graduation* (J. F. Heubert & R. M. Hauser, eds.). Washington, DC: National Academy Press.
- National Research Council, Committee on Increasing High School Students' Engagement and Motivation to Learn. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.
- Neal, D. (1997). The effects of Catholic secondary schooling on educational achievement. *Journal of Labor Economics, 15*, 98-123.
- Neumann, F. M., Wehlage, G. G., & Laraborn, S. D. (1992). The significance and sources of student engagement. In F. M. Neumann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11-39). New York: Teachers College Press.
- Ogbu, J. U. (1989). The individual in collective adaptation: A framework for focusing on academic underperformance and dropping out among involuntary minorities. In L. Weis, E. Ferris, & H. G. Perie (Eds.), *Dropouts from school: Issues, dilemmas, and solutions* (pp. 181-204). Albany: State University of New York Press.
- Ogbu, J. U. (1992). Understanding cultural diversity and learning. *Educational Researcher, 21*, 5-14.
- Prog, M. A., & Magee, C. (1997). High school completion: The influence of schools, families, and adolescent parenting. *Social Science Quarterly, 78*, 710-724.
- Pong, S. L., & Ju, D. B. (2000). The effects of change in family structure and income on dropping out of middle and high school. *Journal of Family Issues, 21*, 147-169.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*, 1-24.
- Raudenbush, S. W., & Williams, J. D. (1995). The estimation of school effects. *Journal of Educational and Behavioral Statistics, 20*, 307-335.
- Ribar, D. C. (1994). Teenage fertility and high school completion. *Review of Economics and Statistics, 76*, 413-424.
- Riehl, C. (1999). Labeling and letting go: An organizational analysis of how high school students are discharged as dropouts. In A. M. Pallas (Ed.), *Research in sociology of education and socialization* (pp. 231-268). New York: JAI Press.
- Roderick, M. (1993). *The path to dropping out*. Westport, CT: Auburn House.
- Roderick, M. (1994). Grade retention and school dropout: Investigating the association. *American Educational Research Journal, 31*, 729-759.
- Roderick, M., Bryk, A. S., Jacob, B. A., Easton, J. Q., & Allensworth, E. (1999). *Ending social promotion: Results from the first two years*. Chicago: Consortium on Chicago School Research.
- Roderick, M., Manguerra, J., Bacon, J., & Easton, J. Q. (2000). *Updating social promotion*. Chicago: Consortium on Chicago School Research.
- Rumberger, R. W. (1983). Dropping out of high school: The influence of race, sex, and family background. *American Educational Research Journal, 20*, 199-220.
- Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal, 32*, 583-625.
- Rumberger, R. W., Chazak, R., Poulos, G., Ritter, P. L., & Derathusch, S. M. (1990). Family influences on dropout behavior in one California high school. *Sociology of Education, 63*, 283-299.

- Rumberger, R. W., & Larson, K. A. (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education*, 107, 1-35.
- Rumberger, R. W., Larson, K. A., Palardy, G. A., Ream, R. K., & Schleicher, N. A. (1998). *The hazards of changing schools for California Latino adolescents*. Berkeley, CA: Chicano/Latino Policy Project.
- Rumberger, R. W., & Palardy, G. J. (2004, April 1-5). *Test scores, dropout rates, and transfer rates as alternative indicators of school performance*. Revised paper originally presented at the annual meeting of the American Educational Research Association, New Orleans.
- Rumberger, R. W., & Thomas, S. L. (2000). The distribution of dropout and turnover rates among urban and suburban high schools. *Sociology of Education*, 73, 39-67.
- Sander, W., & Klautmann, A. C. (1995). Catholic schools, dropout rates and educational attainment. *Economic Inquiry*, 33, 217-253.
- Shanahan, M. J., & Flaherty, B. P. (2001). Dynamic patterns of time use in adolescence. *Child Development*, 72, 385-401.
- Shavelson, R., McDannell, L., Oakes, J., & Carey, N. (1987). *Indicator systems for monitoring mathematics and science education*. Santa Monica, CA: RAND.
- Skiba, R., & Peterson, R. (1999). The dark side of zero tolerance: Can punishment lead to safe schools? *Phi Delta Kappan*, 80, 372-376, 381-382.
- South, S. J., Baumer, E. F., & Lutz, A. (2003). Interpreting community effects on youth educational attainment. *Youth and Society*, 35, 3-36.
- Stecher, B. M., & Johnson, G. W. (Eds.). (2000). *Class size reduction in California: The 1998-99 evaluation findings*. Sacramento: California Department of Education.
- Steele, C. (1997). The threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52, 613-629.
- Steele, C. M., & Aronson, J. (1998). Stereotype threat and the test performance of academically successful African Americans. In C. Jencks & M. Phillips (Eds.), *The black-white test score gap* (pp. 401-427). Washington, DC: Brookings Institution Press.
- Steinberg, L., Blunde, P. L., & Chan, K. S. (1984). Dropping out among language minority youth. *Review of Educational Research*, 54, 113-132.
- Steinberg, L., Dornbusch, S. M., & Brown, B. B. (1992). Ethnic differences in adolescent achievement. *American Psychologist*, 47, 723-729.
- Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, 63, 1266-1281.
- Suárez-Orozco, M. M., & Suárez-Orozco, C. E. (1995). The cultural parenting of achievement motivation: A comparison of Mexican, Mexican immigrant, Mexican American, and non-Latino White American students. In R. G. Rumbaut & W. A. Cornelius (Eds.), *California's immigrant children: Theory, research, and implications for educational policy* (pp. 161-190). San Diego: University of California, San Diego, Center for U.S.-Mexican Studies.
- Sui-Chu, E. H., & Willis, J. D. (1996). Effects of parental involvement on eighth-grade achievement. *Sociology of Education*, 69, 126-141.
- Swanson, C. B., & Schneider, B. (1999). Students on the move: Residential and educational mobility in America's schools. *Sociology of Education*, 72, 54-67.
- Teachman, J. D., Passch, K., & Carver, K. (1996). School capital and dropping out of school. *Journal of Marriage and the Family*, 58, 773-783.
- Texas Education Agency. (1998). *1996-97 report on grade level retention*. Austin: Author.
- U.S. Department of Education. (1990). *National goals for education*. Washington, DC: U.S. Department of Education.
- U.S. Department of Education. (2004). *No child left behind*. Washington, DC: U.S. Department of Education. Retrieved June 16, 2004, from <http://www.ed.gov/nclb/landing.html#site-cp>.
- U.S. Department of Education, National Center for Education Statistics. (1997). *The condition of education, 1997*. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Education, National Center for Education Statistics. (2003). *Digest of education statistics, 1999*. Washington, DC: U.S. Government Printing Office. Retrieved June 16, 2004, from http://nces.ed.gov/ipeds/digest/digest402/list_table1.asp#e1_4.
- Upchurch, D., & McCardy, J. (1990). The timing of a first birth and high school completion. *American Sociological Review*, 55, 224-234.
- Valenz, W. (1989). High school attrition among Hispanic and non-Hispanic white youths. *Sociology of Education*, 62, 119-133.
- Warren, J. R. (2002). Reconsidering the relationship between student employment and academic outcomes: A new theory and better data. *Youth & Society*, 33, 366-393.
- Warren, J. R., & Lee, J. C. (2003). The impact of adolescent employment on high school dropout: Differences by individual and labor-market characteristics. *Social Science Research*, 32, 98-128.
- Wehlage, G. G., & Rutter, R. A. (1986). Dropping out: How much do schools contribute to the problem? *Teachers College Record*, 87, 374-392.
- Wehlage, O. G., Rutter, R. A., Smith, G. A., Lesko, M., & Fernandez, R. R. (1989). *Reducing the rich: Scholastic communities of support*. New York: Falmer Press.
- Wilson, W. J. (1987). *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.