

SUMMARY

This investigation documents that students who would be identified as "at risk" because of their race, family income, or home language are in fact a diverse group! Among them is a significant number of individuals whose academic achievement is at an acceptable level or better--perhaps as many as one-third or more of these youngsters. In eighth grade, they are distinct from their less successful peers on a number of performance indicators including achievement in specific school subjects, course grades, and plans for post-secondary education. More of the successful students had attended a nursery or preschool, and successful students at risk watched less television, on average, and read more for their own pleasure than students who were not successful academically.

Most significantly, within the at-risk sample, successful students were distinct from their unsuccessful peers on a range of participatory behaviors in class and out, even controlling for racial differences. Successful students attend class and arrive on time; they come to class prepared; they participate in, rather than disrupt, classroom activities; and they do more homework and participate more actively in extracurricular activities. These findings were confirmed both from student self-reports and from teacher ratings of individual youngsters. For the most part, interactions with race or gender were not statistically significant, indicating the consistency of these findings for males and females alike and for all four racial/ethnic groups studied.

The results for "identification" were not as strong. Neither the number of times a student had changed school prior to eighth grade nor the student's perceptions of the warmth and supportiveness of the school environment was significantly related to academic performance. Successful, passing, and unsuccessful students did differ, however, on the extent to which they valued school-related learning. Identification measures had low to moderate correlations with indicators of classroom participation, but all were statistically significant.

Further results indicated that more successful at-risk students have parents who are more directly involved in their school work. Their parents monitor their homework more often, discuss school work, programs, and plans with them more frequently, and provide more extensive education-relevant resources at home. In contrast, parents' own contacts with the school were not related significantly to their youngsters' achievement.

Throughout the analysis, the comparison of the "successful" students with the "passing" group of youngsters has not been statistically significant, while the comparison of "unsuccessful" students with both of the higher groups has been pronounced. This may suggest that there are numbers of students whose school work is only modest but whose classroom behavior is of sufficient quality for them to attain modest goals or better. It is important that we do not let these "marginal" youngsters escape our attention.

Engagement and Risk: Conclusions

This investigation examined data on a nationwide sample of eighth-grade students collected by the National Center for Education Statistics as part of the National Educational Longitudinal Survey of 1988 (NELS:88). The survey includes an extraordinary breadth of information from questionnaires presented to students, teachers, parents, and principals, thus permitting the kind of process analysis conducted here. The richness of the database is being enhanced further by the collection of grade 10, 12, and post-secondary follow-up information on the same students.

From prior research and from the array of statistical findings presented in this report, the investigation yields three major conclusions and one principal recommendation for research.

Conclusion 1: To understand dropping out and educational risk generally we must examine the behaviors that differentiate students who are more successful in school from those who are less so rather than the status characteristics of large and diverse groups. Racial/ethnic groups, socioeconomic groups, and non-English speaking groups are not homogeneous. Not all inner-city minorities will necessarily fail or drop out of school and, at the other extreme, a number of suburban white students may be at risk educationally because they are not engaged in their school work.

In this light it is meaningful to talk about a set of behavioral risk factors--specific behaviors that can be identified and perhaps manipulated to reduce the likelihood that a student will fail in school and/or will leave without graduating. The most fundamental participatory behaviors are attending school and classes and satisfying the basic instructional requirements. Participatory behaviors also include initiative-taking in the classroom, participation in academic and nonacademic activities outside the regular class schedule, and even involvement in goal-setting and the governance of the school. These behaviors are only likely to continue through the grades if a youngster receives sufficient positive feedback from

school staff, parents, and/or friends, and if the attitudes and values that encourage the perseverance of participatory behaviors become internalized.

Conclusion 2: Risk behaviors have their roots in early school experience (or before). These early behaviors track, that is, they have early and later forms that evolve as the youngster's autonomy increases. They become self-perpetuating and perhaps more difficult to alter in each subsequent grade. It is an unfortunate aspect of human nature that individuals often strive to recreate that which they are familiar from prior experience even when the consequences are detrimental to their well-being. But data supporting the participation-identification model and research on the attributions students make about success and failure and the behaviors that ensue lead to the same conclusion: patterns of emotional and physical withdrawal established in the early grades are likely to persevere.

The students in this investigation were in eighth grade, roughly two-thirds of the way through their elementary-secondary years, and the association of engagement behavior with reading and mathematics performance (and with a host of other school-related outcomes) was firmly in place.

What might have been done to decrease the number of disengaged, low achieving students prior to this time? If it is at all possible to affect children's behavior patterns, and if these changes will persevere, then a two-part strategy is advisable. First (1) routine behavior assessments should be made of children whose status risk levels are high, beginning in the first years of school. The early-diagnosis concept has a close parallel in the medical world:

Medical researchers have developed a variety of "Health Risk Appraisals" to assess the individual's health risk status. The observation that most of the ten leading causes of death in adulthood are causally linked to personal health habits, and to a lesser degree to family history and environmental factors, has led to interest in

defining level of health based on the quantitative relationship between these [earlier] influences and the health problems they cause. (Breslow et al., 1985, p. I-2)

Forms of nonparticipatory behavior seen in the elementary grades are described in the introductory section of this report. The finding that inattentive youngsters perform significantly below those who are disruptive suggests that priority should be given to identifying children who are withdrawn and distracted.

Second (2) interventions should be attempted in the early grades directed at increasing the youngsters' active participation in class even if concern with actual achievement levels is deferred. A number of rating scales are already available for identifying nonparticipatory behavior in the early grades. There is little systematic research on interventions to increase engagement, however. Several starting points for this work are described in the section of this report that follows.

Conclusion 3: More attention should be given by educators and researchers to encouraging the potential of "marginal" students. In the present investigation, these individuals constituted the "passing" classification. They exhibited a range of engagement behaviors that were much like those of their more successful peers: They came to school and class regularly, completed assignments and passed tests but without distinction, and most will graduate at approximately the modal age.

This study does not provide data about educational or social outcomes beyond the school years, nor does it examine the academic potentials of marginal students in the classroom. Nevertheless, it is important to ask whether there are students who, *given appropriate support and encouragement*, can attain adequate levels of learning and also accomplish important social and economic goals (for example, hold a job that requires some degree of literacy, vote or participate in community functions, raise a healthy family). It is also possible that the same individuals in the same settings but without the needed support

and encouragement may be destined for far more adverse outcomes. In our search for excellence and our concern about failure it is important that we also learn to identify those who may be somewhere in the middle but whose paths are influenced by the feedback and rewards they receive.

Can Engagement be Fostered by School Programs?

This investigation has viewed engagement as a set of *student* behaviors and habits. At the same time, it is recognized that these behaviors may be responsive to the demands and rewards of the school setting. The most central research question raised by this study is the following: **What are the class and school processes that can be manipulated to promote engagement among students at risk?** It is recommended that systematic research be undertaken that views engagement as a primary *outcome* of interest in contrast to much of the earlier work in which academic achievement was used as the dependent variable. Research on this topic should give priority to three considerations: (1) It should focus on the early school years; (2) It should examine factors that affect both the short-term stability and long-term perseverance of engagement; and (3) It should focus on the engagement or disengagement of *individual students* in contrast to larger groups identified by school organization or status characteristics.

If engagement is the dependent variable, then what independent variables should be examined? The most promising avenues to date are based on the principle that "smaller is better." Hamilton (1986), in a review of dropout-prevention programs, finds that one of the defining characteristics of successful programs is "they are intensive in the sense of being small, individualizing instruction, having low student-teacher ratios, and offering more counseling than ordinary schools" (p. 410).

Evidence supporting this proposition can be found from the institutional level to the level of small-group interactions. For example, Lindsay (1982) used data from a nationwide

sample of high schools and demonstrated that *school size* is inversely related to student participation in extracurricular activities and to attendance. In an earlier small-scale study, Willems (1967) examined the relationship between students' "sense of obligation" and a measure of school size, the number of students (S) relative to the number of activities (A). The results supported the study's hypothesis that when the S/A ratio is low, maintenance of a school activity "will require the participation of persons who might otherwise be seen as unsuitable or marginal" (p. 1250). A recent review of the effects of school size (Fowler, 1992) emphasizes the need for further research on enrollment as it relates to student participation both cross-sectionally and over a span of years.

A large-scale study of *class size* in the State of Tennessee also examined student participation as an outcome (Finn, Fulton, Zaharias, & Nye, 1989). In that well-controlled experiment, students who had attended small classes (about 15 students) in kindergarten through grade three were rated by their fourth grade teacher and compared with youngsters who had attended regular size classes (about 24 students). The small-class group not only had superior achievement scores but expended more effort, took more initiative, and exhibited less noncompliant behavior than students who had attended regular size classes.

Within the classroom, *instructional approaches* also affect student participation levels (see Kagan, 1990). This was demonstrated by Anderson and Scott (1978) in an observational study of seven high-school classrooms. Over the observation period, the researchers recorded the type of teaching method that was used in each time segment (lecture, classroom discourse, seatwork, group work, or audiovisual) and the proportion of time segments in which the students were engaged in task-relevant behavior. The findings were particularly germane to marginal students:

Students who have low aptitude and low academic self-concepts seem to be most affected by variations in teaching method. Teachers working with this type of student should consider emphasizing classroom discourse and seatwork methods. (p. 56)

Cooperative learning approaches (Slavin, 1983) also appear promising for encouraging engagement among all students.

Further research on the principle "smaller is better" is imperative. Additional correlational evidence is needed on the *interactions* of school and classroom characteristics that may affect pupil participation, both in the short and long term. And intervention studies should be undertaken that include the *early assessment of participation* and *persistent reinforcement* on the engagement of pupils who may be marginal or clearly at risk for school problems.

Other features of school organization have been proposed that may affect student engagement but, to date, are not supported by strong empirical evidence. In terms of *administrative practices*, arguments have been made for flexible school rules that do not alienate students and disciplinary procedures that are seen as fair and effective (Bryk & Thum, 1989; Gold & Mann, 1984; Miller, Leinhardt, & Zigmond, 1988; Newmann, 1981; Richardson et al., 1989; Wehlage & Rutter, 1986), an evaluation and reward system that is compatible with the abilities of the students (Natriello, 1984), and positions of responsibility for students (Newmann, 1981; Rutter et al., 1979). Data on many of these institutional practices are available in the NELS:88 database--a natural place to begin to explore their effects.

In terms of *curriculum and instruction*, recent scholarly writing suggests that some schools do not provide students with adequate "opportunity to learn." Stevens (1992) considered four aspects of opportunity: (a) content coverage--whether students are exposed to the "expected" curriculum for a particular subject area at a particular grade level; (b) content exposure--the time allowed for particular topics and the depth of coverage; (c) content emphasis--the topical emphasis and whether high or low order skills are emphasized; and (d) quality of instructional delivery--coherence of presentation. Her review of empirical studies on opportunity to learn plus a survey of the assessment practices of 142 school districts

yielded the conclusions that "Students' differences in academic achievement are not being related to an analysis of opportunity to learn" (p. 48) and that "Lack of opportunity to learn information hampers teachers' abilities to improve their teaching practices" (p. 49).

Opportunity to learn is not distributed evenly across American schools. For example, it has been suggested that schools serving largely minority, non-English-speaking, or low-SES populations do not offer the breadth and depth of coursework that may be found elsewhere (Oakes, 1990). Research has shown that disadvantaged schools make less frequent use of such practices as minimum competency tests, higher-level active learning methods and, ironically, certain remedial practices (MacIver & Epstein, 1990). Teachers in suburban schools are also more available to their pupils outside the regular schedule than teachers in inner-city schools (Rosenbaum, Rubinowitz, & Kulieki, 1986). This is just a sampling of results. But if these deficiencies originate from the expectation that students in certain schools are not capable of learning, then the likelihood of continued participation and successful school outcomes by these youngsters will be reduced; the expectation will become self-fulfilling prophecy.

In sum, priority should be given to understanding why so many students disengage from classes and school, and to efforts to prevent this from happening. The potential benefits of high levels of participation extend beyond eighth grade and beyond the formal years of schooling even if the youngster does not graduate with his/her high school class. An individual who returns to school to complete an equivalency degree may represent a particularly important educational success. Kaufman and Frase (1990) report that in 1989, an estimated 68.0% of American youngsters in the 18- to 19-year age range had received a formal high-school diploma. In the same year, 86.0% of 22- to 24-year-olds had "completed" high school by receiving a diploma or an alternative credential such as a GED. In other words, engagement behaviors are not just important in the early grades or during the high-school years, but continue to be important in post-school accomplishments as well.

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