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CHAPTER SEVEN

Schools as Developmental Contexts

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Introduction

Despite the increasing recognition that schools play a critical role in cognitive and social development, our understanding of the impact of schools on development is still quite rudimentary. Only recently have researchers interested in schools looked beyond the intellectual domain to examine how experiences in classrooms and schools influence adolescents' feelings, identity-related beliefs, and behavioral choices. For the most part, developmental researchers focus on the family and the peer group rather than schools; in contrast, educational researchers focus on the impact of schools on intellectual rather than social—emotional outcomes. Although there are important exceptions to this characterization, the need for increased interdisciplinary collaboration among researchers interested in "school effects" on adolescent development has been noted by several scholars (Eccles et al., 1998; Speece & Keogh, 1996). Instead, researchers in education, psychology, psychiatry, and sociology have typically worked independent of one another and have used a variety of approaches to study how schools influence development. Such diversity has made it difficult to compare findings and build an integrated body of knowledge about school effects. In this chapter, we briefly review the five major streams of these research efforts.

School-Level Resources and Structure

Early studies of schools focused primarily on objective characteristics of schools such as school size, teacher-student ratios, number of books in the library, and per-pupil expenditures (Barker & Gump, 1964). School size emerged as one of the most important of these structural characteristics: Both students and their teachers scored better on a wide

variety of indicators of successful development if they were in small schools rather than large schools. There has been a renewed interest in both school size and school-level resources. A recent example of the work on school size can be found in the 2000 book Children of the Land, by Glen Elder and Rand Conger. These investigators found that school size is associated with a wide range of social and academic outcomes for adolescents attending high schools in Iowa during the 1990s. On all indicators, the adolescents attending smaller schools, on average, did better than the adolescents attending larger schools after critical family and individual level predictors were controlled. Elder and Conger argued that these effects likely reflect two processes: the greater opportunities for students at small schools to play significant roles in the fabric of their high school culture and the greater likelihood of teachers being able to monitor and support all of the students in the school. Recent work using national samples suggests that there may be a curvilinear relation between school size and adolescent development - being in a very small secondary school can have negative consequences for those adolescents who do not fit well with the social groups and teachers in the school, being in a secondary school larger than 1000 has negative consequences for many adolescents (Lee & Smith, 2001).

The continuing ethnic group differences in academic achievement and performance on standardized tests have forced a reconsideration of the role of other school-level resources on adolescents' development. Thirty-seven percent of African American youth and 32 percent of Hispanic youth, compared to 5 percent of European American and 22 percent of Asian youth are enrolled in the 47 largest city school districts in this country; in addition, African American and Hispanic youth attend some of the poorest school districts in this country. Twenty-eight percent of the youth enrolled in city schools live in poverty and 55 percent are eligible for free or reduced-cost lunch, suggesting that class may be as important (or more important) as race in the differences that emerge. Teachers in these schools report feeling less safe than teachers in other school districts, dropout rates are highest, and achievement levels at all grades are the lowest (Council of the Great City Schools, 1992). Finally, schools that serve these populations are less likely than schools serving more advantaged populations to offer either high-quality remedial services or advanced courses and courses that facilitate the acquisition of higher-order thinking skills and active learning strategies. Even adolescents who are extremely motivated are likely to find it difficult to perform well under these educational circumstances.

Schools as Social Organizations

Schools are formal organizations and have their own characteristics (values, norms, activities, and everyday routines) that can impact on adolescents' intellectual, social—emotional, and behavioral development. A second group of researchers has focused on these characteristics and their impact on adolescent development. Rather than examining the relation of demographic and economic inputs with achievement outputs, these researchers examine the mediating organizational and social processes enacted by teachers, principals, and school staff. In this chapter, we review the evidence for school climate, shared values and goals, and curricular tracking.

School climate and shared values/goals

Some of the researchers interested in school climate study schools that have the reputation of being particularly good or unusually bad. Others do intensive studies of schoollevel interventions designed to change the "school climate" (e.g., Bandura, 1994; Bryk et al., 1993; Cauce, Comer, & Schwartz, 1987; Comer, 1980; Goodenow, 1993; Lee & Smith, 2001; MacIver, Reuman, & Main, 1995; Rosenbaum et al., 1988; Rutter, 1983). Using these strategies, researchers have demonstrated the advantages of the following types of school climate-related processes: organizational features of the school such as strong leadership, opportunities for all students to participate in school activities, and strong and clear norms and rules related to order and discipline; social/cultural features such a sense of community among teachers, students, and staff, and both positive teacher expectations and a high sense of shared teacher efficacy; and instructional features such as a press for achievement and an emphasis on clear curricular goals. For example, in their analysis of higher achievement in Catholic schools, Bryk et al. (1993) discuss how the culture within Catholic schools is fundamentally different from the culture within most public schools in ways that positively affect the motivation of students, parents, and teachers. This culture values academics, has high expectations that all children can learn, and affirms the belief that the business of school is learning.

Similarly, Maehr, Midgley and their colleagues have argued that a school-level emphasis on different achievement goals creates a school psychological environment that affects students' academic beliefs, affect, and behavior (e.g., Maehr & Midgley, 1996; Roeser, Midgley, & Urdan, 1996). For example, schools' use of public honor rolls and assemblies for the highest achieving students, class rankings on report cards, differential curricular offerings for students of various ability levels, and so on are all practices that emphasize relative ability, competition, and social comparison in the school and create a school-level ability rather than mastery/task focus. In contrast, through the recognition of academic effort and improvement, rewards for different competencies that extend to all students, and through practices that emphasize learning and task mastery (block scheduling, interdisciplinary curricular teams, cooperative learning), schools can promote a school-level focus on discovery, effort and improvement, and academic mastery. In turn, this focus on mastery goals supports the school attachment and academic achievement of students of all ability levels (see Eccles et al., 1998 for a review).

The academic goal focus of a school also has important implications for students' mental health. In a series of studies, Roeser and Eccles found that the belief that their school is ability-focused leads to declines in students' educational values, achievement, and self-esteem, and increases in their anger, depressive symptoms, and school truancy as they move from seventh to eighth grade (Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 1998). Effects of school-wide academic climate and goals on delinquency were found by Fiqueira-McDonough (1986). Apparently, schools that emphasize ability alienate a significant number of students who cannot perform at the highest levels, leading to anxiety, anger, disenchantment, and self-selection out of the school environment (Eccles & Midgley, 1989; Finn, 1989). In contrast, schools that emphasize effort, improvement, task mastery, and the expectation that all students can learn appear to include more adolescents in the learning process, promote adaptive attributions (e.g., achievement is based on effort and is therefore malleable), reduce depression, and decrease the frustration and anxiety that can be appropriately be the proposed in the contraction and anxiety that can be appropriately all the contractions and anxiety that can be appropriately all the contractions and anxiety that can be appropriately all the contractions are contracted as the contraction and anxiety that can be appropriately all the contractions are contracted as the contraction and anxiety that can be appropriately all the contractions are contracted as the contraction and anxiety that can be appropriately as the contraction and anxiety that can be appropriately as the contraction and accordance and anxiety that can be appropriately as the contraction and accordance and accordance are contracted as the contraction and accordance are contracted as the contraction and accordance are contracted as the contraction and accordance are contracted as the contracted as the contracted as the contracted and accordance are contracted as the contrac

frustration and anxiety that can be generated in achievement settings.

Finally, school-level academic goal emphases are strongly correlated with adolescents' perceptions of the school social climate. Adolescents who perceive a task-orientation in their school also report that their teachers are friendly, caring, and respectful. These factors, in turn, predict an increased sense of belonging in school among adolescents. In contrast, perceptions of a school ability-orientation are negatively correlated with adolescents' perceptions of caring teachers (Goodenow, 1993; Roeser et al., 1996). From the adolescents' perspective, a de-emphasis on comparison and competition and an emphasis on effort and improvement are intertwined with their view of caring teachers.

Curricular tracking

Another school-level feature that is strongly related to adolescent development is curricular tracking (Oakes, Gamoran, & Page, 1992). The process of providing different educational experiences for students of different ability levels is a widespread yet very controversial practice in American schools. At the secondary school level this practice usually involves between-class grouping of students bound for different post-secondary school trajectories (college prep, general, vocational). Differentiated curricular tracking affects development in two ways: First, tracking determines the quality and kinds of opportunities to learn each student receives (Rosenbaum, 1980; Oakes, Gamoran, & Page, 1992), and second, it determines exposure to different peers and thus, to a certain degree, the nature of social relationships that youth form in school (Fuligni, Eccles, & Barber, 1995).

The common justification for curricular tracking derives from a person-environment fit perspective. Students should be more motivated to learn if the material they are asked to master is appropriate for their current competence level and interests. There is some evidence consistent with this perspective for adolescents placed in the college tracks (Fuligni, Eccles, & Barber, 1995; Gamoran & Mare, 1989; Pallas et al., 1994; Slavin, 1990). In contrast, the results for adolescents placed in low-ability and non-college tracks do not support this hypothesis. By and large, when long-term effects are found for this group of students, they are negative primarily because these adolescents are typically provided with inferior educational experience and support (Pallas et al., 1994; Rosenbaum, 1980; Rosenbaum, Kulieke, & Rubinowitz, 1988). Low track placement is related to poor attitudes towards school, feelings of incompetence, and problem behaviors both within school (nonattendance, crime, misconduct) and in the broader community (drug use, arrests) as well as to educational attainments (Oakes, Gamoran, & Page, 1992). But whether or not academic tracks promote such outcomes or reflect preexisting differences remains a matter of considerable debate. It is also important to note that these negative effects result from the stereotypically biased implementation of ability-grouping programs. A different result might emerge for the low-competence students if the teachers implemented the program more in keeping with the goals inherent in the personenvironment fit perspective - that is, by providing high-quality instruction and motivational practices tailored to the current competence level of the students.

Another important and controversial aspect of curriculum differentiation involves how students get placed in different classes and how difficult it is for students to move between class levels as their academic needs and competencies change once initial placements have been made. This issue is especially important in adolescence, when course placement is linked directly to the kinds of educational options that are available to the student after high school. Minority youth, particularly African American and Hispanic boys, are more likely to be assigned to low-ability classes and non-college-bound curricular tracks than other groups; furthermore, many of these youth are incorrectly assigned to these classes (Oakes, Gamoran, & Page, 1992; Rosenbaum, Kulieke, & Rubinowitz, 1988).

The consequences of such misassignment are great. Dornbusch (1994) described the impact of tracking on a large, ethically diverse sample of high school students in northern California. Analyzing the data course by course, Dornbusch found that 85 percent of his sample stayed in the same track during high school - there was little mobility. Furthermore, Dornbusch found that many average students, particularly average students of color, were incorrectly assigned to lower-track courses. This mistake had long-term consequences for these students, in effect putting them on the wrong path toward meeting the requirements for getting into California's higher educational system. Of particular concern was the fact that these youth and their parents, who were more likely to be of color and poor, were never informed of the potential consequences of course decisions made by school personnel during the child's early high school career. Thus, curricular differentiation and school-home communication practices exerted a profound influence over the life paths of these average students who, though able, were placed in lower-ability classrooms in high school.

Classroom-Level Practices Linked to Academic Outcomes

A third group of researchers focus on the classroom-level practices that enhance academic outcomes. These researchers have demonstrated the importance of two general characteristics: a strong emphasis on high-quality instruction and high expectations that all students can master the curriculum (see, for example, Ames, 1992; Bransford, Brown, & Cocking, 1999; Darling-Hammond, 1997; Jackson & Davis, 2000; MacIver, Reuman, & Main, 1995; Pintrich & Schunk, 1996; Wehlage et al., 1989). A full review is beyond the scope of one chapter, but there is growing consensus that the following teaching strategies and techniques are important:

- Active construction of knowledge in which students are asked to construct or produce knowledge rather than just reproducing or repeating facts and views expressed by teachers and textbooks.
- Disciplined inquiry in which students are encouraged to engage in deep cognitive work "that requires them to rely on a field of knowledge, search for understanding,

and communicate in 'elaborated forms' their ideas and findings" (Jackson & Davis, 2000: 69). This characteristic also includes active instruction in the metacognitive skills needed to monitor one's own learning and progress.

 Relevance of material being studied to the student and his or her community and culture. The work that students are doing in school should be valued and recognized

as important beyond the school and classroom.

Regular feedback on progress so that students understand what they know and what
they still need to learn and master. The feedback needs to focus on progress and on
new learning needs, rather than one's current performance level compared with others
in the class or learning group.

Abundant opportunities to rethink one's work and understanding.

 Differentiated instruction that recognizes individual differences in levels of current knowledge, interests, and learning styles and provides multiple ways of learning new material and demonstrating that learning.

 Cooperative and highly interactive learning activities that allow students to work with and tutor each other and allow instructors to work with them in designing learning

activities that provide the kinds of experiences listed above.

Classroom-Level Influences on Motivation and Social Development

Another group of researchers focus on classroom-level influences on students' achievement motivation and more general social development (see Ames, 1992; Connell & Wellborn, 1991; Deci & Ryan, 1985; Eccles, Wigfield, & Schiefele, 1998; Maehr & Midgley, 1996; Newmann, Wehlage, & Lamborn, 1992; Pintrich & Schunk, 1996; Roeser & Eccles, 1998; Skinner & Belmont, 1993; Stipek, 1996). These investigators often focus on two sets of influences: teachers' beliefs and teacher practices. Not surprisingly, many of the practices shown to influence academic outcomes also influence student motivation. For example, the following practices all support high student motivation to learn:

- Teaching and grading practices that stress improvement rather than social comparison based on current competence levels.
- Practices that reflect high teacher expectations for all students' performance.
- Practices that make sure all students participate fully in the learning activities of the classroom.
- Practices that involve hands-on activities (like laboratory exercises and field-based data collection efforts).
- · Practices that support student autonomy and decision making.
- Practices that are compatible with the students' culture and home values.
- Practices that help students understand the importance and larger meaning of what
 they are being taught.
- Practices that create a positive and supportive teacher-student relationship.
- Practices that create a positive and supportive peer climate for all students.

We summarize briefly a few of these conclusions.

Teacher expectations

There is a long history of research on teacher expectancy effects. A great deal of this work has focused on differential treatment related to gender, race/ethnic group, and/or social class. Most of this work has documented the small but fairly consistent undermining effects of low teacher expectations on girls (for math and science), on minority children (for all subject areas), and on children from lower social-class family backgrounds (again for all subject areas) (see Brophy, 1988; Eccles & Wigfield, 1985; Ferguson, 1998; Jussim, Eccles, & Madon, 1996; Valencia, 1991).

Recently, Claude Steele (e.g., Steele & Aronson (1995)) has linked this form of differential treatment, particularly for African American students, to school disengagement and disidentification (the separation of one's self-esteem from all forms of school-related feedback). Steele argues that African American students become aware of the fact that teachers and other adults have negative stereotypes of African Americans' academic abilities. This awareness increases their anxieties, which, in turn, lead them to disidentify with the school context to protect their self-esteem.

Integrated approaches to studying classroom-level influences on development

Goal theory. Recently, there has been a shift to a more global, integrated view of the impact of learning contexts on motivation. Goal theorists, for example, have proposed two major achievement goal systems: mastery-oriented goals and performance-oriented goals. Students with mastery-oriented goals focus on learning the material and on their own improvement over time. Students with performance-oriented goals focus on doing better than other students in their class. Goal theorists further argue that a mastery orientation sustains school engagement and achievement better than a performance orientation (see Ames, 1992; Dweck, 1999; Nicholls, 1984; Maehr & Midgley, 1996). Finally, these theorists suggest that the publicness of feedback, particularly social comparative feedback and a classroom focus on competition between students, undermines mastery motivation and increases performance motivation. Evidence supporting both sets of hypotheses has come from the work of Covington (1992) and MacIver (1988). More recently, the work of Midgley, Maehr, and their colleagues has shown that school reform efforts to reduce such classroom practices as social comparative grading systems, and egofocused, competitive motivational strategies have positive consequences for adolescents' academic motivation, persistence on difficult learning tasks, and socioemotional development (e.g., Maehr & Midgley, 1996).

Girl-friendly classrooms. Research on group differences in achievement is another example of an attempt to identify a broad set of classroom characteristics that might influence development. The work on gender differences in interest in math, physical science, and engineering is one example of this approach. Courses in these subject areas are often taught in a manner that females find either boring, irrelevant to their interests, or threatening (Eccles, 1989; Hoffmann & Haeussler, 1995). Females respond more positively to

math and science instruction when it is taught in a cooperative or individualized manner rather than a competitive manner, when it is taught from an applied/person-centered perspective rather than a theoretical/abstract perspective, when it is taught using a hands-on approach rather than a "book-learning" approach, when the teacher avoids sexism in its many subtle forms, and when the examples used to teach general concepts reflect both stereotypically female and male interests (e.g., using the heart as an illustration of the principles associated with pumps). The reason often given for these effects is the fit of the teaching style and format with females' values, goals, motivational orientation, and learning styles (see Eccles, 1989). This conclusion is a good example of person-environment fit perspectives on the impact of contexts on human development. Lack of cultural and developmental fit are two other powerful examples of this perspective. We will discuss this issue further later on in this chapter.

Psychological influences on motivation. Many of these same researchers have also looked at the psychological influences on student school motivation and learning (e.g., see Ames, 1992; Bandura, 1994; Dweck, 1999; Eccles, Wigfield, & Schiefele, 1998; Ford, 1982; Fuligni, 1997; Graham, 1994; Gutman & Midgley, 2000; Jencks & Phillips, 1998; Pintrich & DeGroot, 1990; Roeser, Midgley, & Urdan, 1996; Stipek, 1996; Wang & Gordon, 1994). Most recently, these researchers have focused on three sets of beliefs: expectancy- or efficacy-related beliefs, task value-related beliefs, and personal goals. They have documented the powerful influence of students' beliefs regarding their ability to master challenging academic work on both their engagement in learning tasks and their actual academic achievement. Similarly, they have shown that students do better on schoolrelated tasks that they both enjoy and think are important. Finally, they have documented the influence of both short- and long-term goals on adolescents' engagement and performance in school. Most of the work on short-term goals has focused on the immediate goals students have as they are performing school-related tasks. For example, is the students' primary goal in doing a particular assignment to demonstrate that they are smarter or better than the other students in the class, or to learn as much as they can from the assignment? In other words, are the students more concerned about demonstrating their ability (or avoiding demonstrating a lack of ability – often labeled an ability-goal focus) or about mastering the material (often labeled a task-mastery focus)? These types of studies demonstrate that students with a task-mastery focus learn more from the task, and are more likely to persist following difficulty or failure, than students with an ability focus. Most of the work on long-term goals has focused on educational and occupational aspirations. These studies show that students do better on tasks and courses that they believe will be instrumental in helping them to achieve these aspirations. As noted above, classroom practices are directly related to the development of these self-perceptions and values.

The nature of academic work

Another important classroom experience is the academic work itself. Two aspects of academic tasks are important: the content of the curriculum and the design of instruction.

The nature of academic content has an important impact on students' attention, interest and cognitive effort. Long ago, Dewey (1902/1990) proposed that academic work that is meaningful to the historical and developmental reality of children's experience will promote sustained attention, high investment of cognitive and affective resources in learning, and strong identification with educational goals and aims. In general, research supports this hypothesis. Content that provides meaningful exploration is critical given that boredom in school, low interest, and perceived irrelevance of the curriculum are associated with poor attention, diminished achievement, disengagement, and finally, alienation from school (e.g., Finn, 1989; Jackson & Davis, 2000; Larson & Richards, 1989). Curricula that represent the "voices," images, and historical experiences of traditionally underrepresented groups is particularly important. The disconnection of traditional curricula from the experiences of these groups can explain the alienation of some group members from the educational process, sometimes eventuating in school dropout (Fine, 1991; Sheets & Hollins, 1999). For example, in reflections on the failure of urban schools in Watts, California to meet the needs of African American males who eventually dropped out, Glasgow (1980, pp. 58, 62) wrote: "what really made these men angry was the explicit and implicit put-down of those things that were the core of their lives. . . . The message of cultural inferiority was conveyed in myriad ways, from outright speech corrections to the omission of everyday Black referents and the absence of Black history in the curriculum."

From a developmental perspective, there is evidence that the nature of academic work does not change over time in ways that are concurrent with the increasing cognitive sophistication, diverse life experiences, and identity needs of adolescents as they move from the elementary into the secondary school years (Carnegie Council on Adolescent Development, 1989). As one indication of this, middle school students report the highest rates of boredom when doing schoolwork, especially passive work (e.g., listening to lectures) and in particular classes such as social studies, math, and science (Larson & Richards, 1989). Similarly, the content of the curriculum taught in schools does not broaden to incorporate either important health or social issues that become increasingly salient as adolescents move through puberty and deal with the identity explorations associated with adolescence (Carnegie Council on Adolescent Development, 1989).

Experiences of racial/ethnic discrimination

Researchers interested in the relatively poor academic performance of adolescents from some ethnic/racial groups have suggested another classroom-based experience as critical for adolescent development: experiences of racial/ethnic discrimination (Feagin, 1992; Fordham & Ogbu, 1986; Rosenbaum, Kulieke, & Rubinowitz, 1988; Ruggiero & Taylor, 1995; Taylor et al., 1994; Wong, Eccles, & Sameroff, under review). Two types of discrimination have been discussed: (1) anticipation of future discrimination in the labor market which might be seen as undermining the long term benefits of education (Fordham & Ogbu, 1986), and (2) the impact of daily experiences of discrimination on one's mental health and academic motivation (Wong, Eccles, & Sameroff, under review).

Both types of discrimination are likely to influence adolescent development but research on these issues is in its infancy. Wong, Eccles, and Sameroff (under review) found that anticipated future discrimination leads to increases in African American youth's motivation to do well in school, which in turn leads to increases in academic performance. In this sample, anticipated future discrimination appeared to motivate the youth to do their very best so that they would be maximally equipped to deal with future discrimination. In contrast, daily experiences of racial discrimination from their peers and teachers led to declines in school engagement and in confidence in one's academic competence and grades, along with increases in depression and anger.

Person-Environment Fit

A fifth group of researchers focuses on person-environment fit. Researchers in this tradition argue that development and learning are maximized when there is a good fit between the needs/characteristics of the learner and the characteristics of the learning environment. Specific research projects have taken many different foci. Some researchers focus on the relation between current ability levels and instructional practices – arguing that there needs to be a good fit between current ability level and both the nature and the difficulty level of instructional practices in order to provide adequate challenge coupled with high probability for success (see Eccles, Wigfield, & Schiefele, 1998; Jackson & Davis, 2000).

Other researchers focus on the issue of cultural fit (e.g., Arkunkumar, Midgley, & Urdan, 1999; Bowers & Flinders, 1990; Deyhle & LeCompte, 1999; Fuligni, 1997; Gay, 1999; Reynolds, 1999; Rosenbaum, Kulieke, & Rubinowitz, 1988; Suarrez-Orozco & Suarrez-Orozco, 1995; Valencia, 1991). These researchers have shown that school achievement is lower than expected when the practices at school do not fit very well with the cultural practices in the students' homes and communities. Poor fit can result from a wide variety of practices, including the language of instruction, the values of the teachers, the design of parent involvement, the authority relations between teachers and students, the content of the instructional materials, and the nature of psychological services provided.

Still other researchers within this tradition focus on the fit between the opportunities afforded in school and the *developing* child's changing needs and competencies. These researchers have extended the person-environment fit perspective to a developmentally sensitive, dynamic view of context × person interactions. For example, several motivational researchers have suggested that a good fit of the school context to the developmental needs and competencies of students is needed for optimal socioemotional as well as for cognitive development. Eccles and her colleagues (1993) have labeled this type perspective *stage-environment fit* to capture the idea that there is a link between the developmental appropriateness of the characteristics of any specific social context and the nature of the developmental outcomes obtained in that context. Eccles and her colleagues have used this approach to study the negative changes in motivation and behavior in school settings often associated with the transition to junior high school.

The middle grades school transition

There is substantial evidence of declines in academic motivation, attachment to school and academic achievement across the early adolescence years (approximately ages 11-14; e.g., Anderman & Maehr, 1994; Eccles & Midgley, 1989; Eccles et al., 1993; Maehr & Midgley, 1996; Rosenbaum, 1980; Roeser, Eccles, & Freedman-Doan, 1999; Simmons & Blyth, 1987; Wigfield et al., 1991). In many cases, the declines in motivation and achievement coincide with the transition into either middle school or junior high school. Eccles and Midgley (1989) proposed that these negative developmental changes result from the fact that traditional junior high schools do not provide developmentally appropriate educational environments for early adolescents. For example, Eccles, Midgley, and their colleagues have argued that junior high school classrooms are more likely than elementary school classrooms to manifest the following age-inappropriate characteristics: high teacher control with little support for student autonomy and decision-making, unsupportive teacher-student relationships, grading practices likely to create an abilityor performance-focused motivational orientation among students rather than a performance- or mastery-focused motivational orientation, whole-class instruction likely to focus attention on social comparison, and lowered teacher sense of personal efficacy to teach all students. Empirical studies have supported these suggestions and have shown how these characteristics undermine early adolescents' school-related motivation and selfperceptions (Anderman, Maehr, & Midgley, 1999; Finger & Silverman, 1966; Midgley, Anderman, & Hicks, 1995; Midgley & Feldlaufer, 1987; Midgley, Feldlaufer, & Eccles, 1988, 1989a, 1989b; Oakes, Gamoran, & Page, 1992; Roderick, 1993; Simmons & Blyth, 1987).

Similarly, Simmons and Blyth (1987) pointed out that most junior high schools are substantially larger than elementary schools and instruction is more likely to be organized departmentally. As a result, junior high school teachers typically instruct several different groups of students, making it very difficult for students to form a close relationship with any school-affiliated adult precisely at the point in development when they need guidance and support from nonfamilial adults. Such changes in student—teacher relationships are also likely to undermine the sense of community and trust between students and teachers, leading to a lowered sense of efficacy among the teachers, an increased reliance on authoritarian control practices by the teachets, and an increased sense of alienation among the students. Finally, such changes are likely to decrease the probability that any particular students's difficulties will be noticed early enough to get the student necessary help, thus increasing the likelihood that students on the edge will be allowed to slip onto negative motivational and performance trajectories, leading to a decline in grades and, frequently, subsequent school dropout (Lord, Eccles, & McCarthy, 1994; Roderick, 1993; Simmons & Blyth, 1987).

Changes such as these are likely to have a negative effect on many students' motivational orientation toward school at any grade level. But Eccles and Midgley (1989) argued that these types of school environmental changes are particularly harmful at early adolescence, given what is known about psychological development during this stage of life. Evidence from a variety of sources suggests that early adolescent development is charac-

terized by increases in desire for autonomy, peer orientation, self-focus and selfconsciousness, salience of identity issues, concern over heterosexual relationships, and capacity for abstract cognitive activity (see Brown, 1990; Eccles and Midgley, 1989; Keating, 1990; Simmons & Blyth, 1987; Wigfield, Eccles, & Pintrich, 1996). Simmons and Blyth (1987) argued that early adolescents need safe, intellectually challenging environments to adapt to these shifts. In light of these needs, the environmental changes often associated with transition to junior high school seem especially harmful in that they emphasize competition, social comparison, and ability self-assessment at a time of heightened self-focus; they decrease decision-making and choice at a time when the desire for control is growing; they emphasize lower-level cognitive strategies at a time when the ability to use higher-level strategies is increasing; and they disrupt social networks at a time when adolescents are especially concerned with peer relationships and may be in special need of close adult relationships outside of the home. The nature of these environmental changes, coupled with the normal course of individual development, is likely to result in a developmental mismatch so that the "fit" between the early adolescent and the classroom environment is particularly poor, increasing the risk of negative motivational outcomes, especially for adolescents who are having difficulty succeeding in school academically.

Middle school reform efforts. Based on the pattern of results discussed in this section, the Carnegie Foundation, along with other agencies, has funded several major middle school reform efforts since 1985. Jackson and Davis (2000) recently summarized many of these efforts. They concluded that the following middle school characteristics support both learning and positive youth development:

- A curriculum grounded in rigorous academic standards and current knowledge about how students learn best.
- A curriculum that is relevant to the concerns of adolescents.
- Instructional methods designed to prepare all students to achieve at the highest standards.
- Staff who are trained experts at teaching young adolescents.
- · Ongoing professional development opportunities for the staff.
- Organizational structures that support a climate of intellectual development.
- Organizational structures that support a caring community climate with shared educational goals.
- Democratic governance that involves both the adults and the adolescents.
- Extensive involvement of parents and the community.
- High levels of safety and practices that support good health.

In another building-level middle school reform effort, Maehr and Midgley (1996) demonstrated the power of practices designed to reduce focus on performance goals and increase focus on task/mastery goals. These practices include grading based on progress rather than normative performance, other reward structures based on progress and mastery of challenging materials rather than competitive performance, grouping of students by interest or choice rather than ability level, use of tests to diagnose what still needs to be learned rather than to compare students to each other, provision of ample opportunities for

student choice and decision making as well as self-scheduling and self-regulation, and cooperative learning structures rather than competitive learning structures.

The high school transition

Although there is less work on the transition to high school, the existing work suggests quite similar problems (Coleman & Hoffer, 1987; Jencks & Brown, 1975; Lee, Bryk, & Smith, 1993; Lee & Smith, 2001; Wehlage, 1989; Wehlage et al., 1989). For example, high schools are typically even larger and more bureaucratic than junior high schools and middle schools. Lee and Smith (2001) provide numerous examples of how the sense of community among teachers and students is undermined by the size and bureaucratic structure of most high schools. There is little opportunity for students and teachers to get to know each other. Consequently, there is distrust between them and little attachment to a common set of goals and values. There is also little opportunity for the students to form mentor-like relationships with a nonfamilial adult and little effort is made to make instruction relevant to the students. Such environments are likely to further undermine the motivation and involvement of many students, especially those not doing particularly well academically, those not enrolled in the favored classes, and those who are alienated from the values of the adults in the high school.

Most large public high schools also organize instruction around curricular tracks that sort students into different groups. As a result, there is even greater diversity in the educational experiences of high school students than of middle grades students; unfortunately, this diversity is often associated more with the students' social class and ethnic group than with differences in the students' talents and interests (Lee & Bryk, 1989). As a result, curricular tracking has served to reinforce social stratification rather than foster optimal education for all students, particularly in large schools (Dornbusch, 1994; Lee & Bryk, 1989). Lee and Bryk (1989) documented that average school achievement levels do not benefit from this curricular tracking. Quite the contrary – evidence comparing Catholic high schools with public high schools suggests that average school achievement levels are increased when all students are required to take the same challenging curriculum. This conclusion is true even after one has controlled for student selectivity factors.

Summary and Conclusions

We have now completed our discussion of school influences on adolescent development. We have outlined many ways in which schools affect the development of adolescents and tried to make it clear that schools operate at several levels to influence development. We also stressed the need to take both a developmental and a person-environment fit perspective on schools. To understand how schools influence development, one needs to understand change at both the individual and the institutional level. Stage-environment fit theory provides an excellent example of the linking of these two developmental trajectories. Imagine two trajectories: one at the school level and one at the individual level. Schools change in many ways over the grade levels. The nature of these changes can be developmentally appropriate or inappropriate in terms of the extent to which they foster continued development toward the transition into adulthood and maturity. Youth move through this changing context as they move from grade to grade and from school to school. Similarly, youth develop and change as they get older. They also have assumptions about their increasing maturity and the privileges it ought to afford them. We believe optimal development occurs when these two trajectories of change are in synchrony with each other - that is, when the changes in the context mesh well with, and perhaps even slightly precede, the patterns of change occurring at the individual level. Furthermore, we summarized evidence that the risk of negative developmental outcomes is increased when these two trajectories are out of synchrony - particularly when the context changes in a developmental regressive pattern. School reform efforts have shown that schools can be made more developmentally appropriate for adolescents; when they are, adolescents remain engaged in their own schooling and connected to schools as valued social institutions.

We also tried to make it clear that the fit between what goes on in school and the needs, beliefs, and cultural values of individual adolescents is key to optimal development. Adolescents are unlikely to thrive in schools that fail to teach material that is relevant to the students and their cultural groups. School reform efforts to improve cultural fit can be quite successful in improving the achievement levels of the students. Adolescents are also unlikely to thrive in schools that allow racial, ethnic, gender-based, and sexual-orientation-based discrimination to occur. Repeated exposure to such insults to one's personhood will undermine both the adolescents' development and their attachment to the school's agenda itself.

Key Readings

Bryk, A. S., Lee, V. E., & Holland, P. B. (1993). Catholic schools and the common good. Cambridge, MA: Harvard University Press.

This is a classic book that summarizes the evidence for high achievement in Catholic schools and provides a thorough discussion of the reasons for their success.

Covington, M. V. (1992). Making the grade: A self-worth perspective on motivation and school reform. New York: Cambridge University Press.

This book provides an excellent summary of Martin Covington's work on self-worth as well as concrete suggestions for how to implement his principles in school reform.

Darling-Hammond, L. (1997). The right to learn: A blueprint for creating schools that work. San Francisco: Jossey-Bass.

The book provides an outstanding discussion of the needs for school reform in American schools.

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

This book outlines Deci and Ryan's classic self-determination theory.

Dewey, J. (1902/1990). The child and the curriculum. Chicago: University of Chicago Press. A classic book on the best way to think about curriculum.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on adolescents' experiences in schools and families. American Psychologist, 48, 90-101.

The article summarizes stage environment-fit theory and discusses reasons why junior high schools are doing such an inadequate job educating early adolescents.

Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation. In N. Eisenberg (Ed.), Handbook of Child Psychology (Vol. 3, 5th ed., pp. 1017-1095). New York: Wiley.

This chapter provides a broad overview of achievement motivation and summarizes what we know about the impact of schools, families, and peers on school motivation and performance.

Elder, G. H. Jr., & Conger, R. D. (2000). Children of the land. Chicago: Chicago University Press. The book provides a summary of the findings from the longitudinal study of adolescent development in farming communities conducted by Elder, Conger, and their colleagues.

Fine, M. (1991). Framing dropouts: Notes on the politics of an urban public high school. Albany: State University of New York Press.

This book summarizes the results of a longitudinal qualitative study of the causes of school dropout.

Jackson, A. W., & Davis, G. A. (2000). Turning points 2000: Educating adolescents in the 21st century. NewYork: Teachers College Press.

The book provides a summary of the results from all middle school reform efforts across the USA since the 1980s.

Lee, V. E., & Smith, J. (2001). Restructuring high schools for equity and excellence: What works. New York: Teachers College Press.

The book provides a summary of the findings from the National Educational Longitudinal Study related to reforming American high schools.

Maehr, M. L., & Midgley, C. (1996). Transforming school cultures to enhance student motivation and learning. Boulder, CO: Westview Press.

The book summarizes the middle school reform study conducted by Carol Midgley and Martin Maehr. Their reform implemented Goal Theory to increase mastery motivation among students and teachers in grades 6-9.

Pintrich, P. R., & Schunk, D. H. (1996). Motivation in education: Theory, research, and application. Englewood Cliffs, NJ: Prentice Hall.

The book provides a broad summary of work in motivation and education.

Sheets, R. H., & Hollins, E. R. (Eds.) (1999). Racial and ethnic identity in school practices: Aspects of human development. Mahwah, NJ: Erlbaum.

The volume contains several excellent chapters on the issues of race, ethnicity, and school experiences.

Simmons, R. G., & Blyth, D. A. (1987). Moving into adolescence: The impact of pubertal change and school context. Hawthorn, NY: Aldine de Gruyter.

This book is the classic summary of the longitudinal work of Roberta Simmons on adolescent development. It compares the development of adolescents attending K-8, 9-12-grade configuration schools with adolescents attending K-6, 7-9, 10-12-grade configuration schools.

The book summarizes the qualitative research the authors have done on Latino youth and school achievement.

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