

2. Factors Expected to Be Associated with the Achievements of Elementary and Middle School Students with Disabilities *By Mary Wagner and Jose Blackorby*

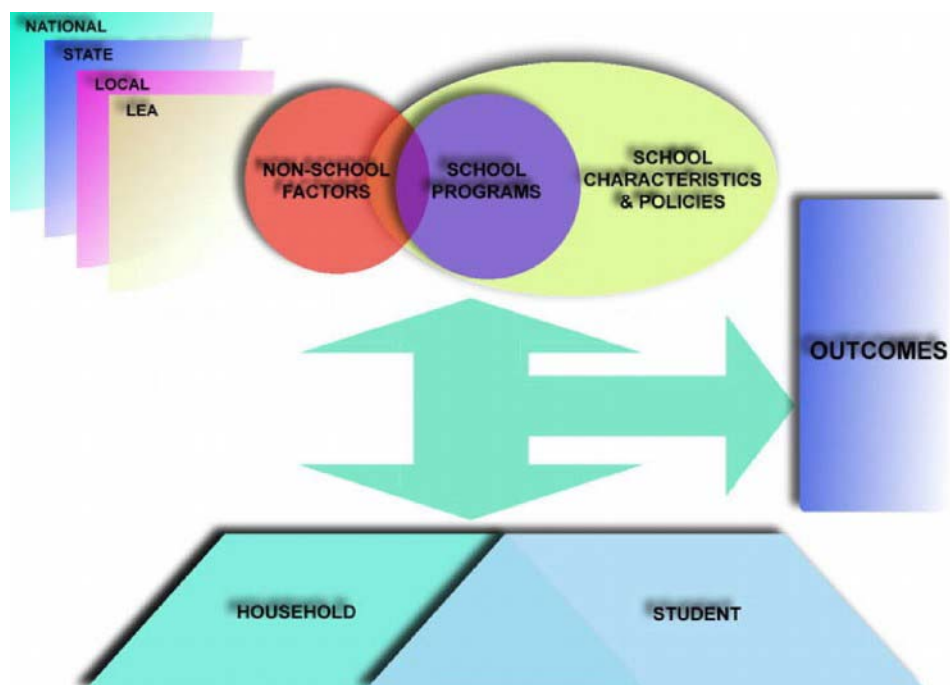
The achievements of students with disabilities during elementary and middle school are the result of a complex interplay of many factors over time. Some are intrinsic to students themselves, some are characteristics of students' family environments, and some involve students' experiences in and outside of school. The importance of a particular factor and the ways factors intertwine may differ for achievements in different domains. This chapter presents the factors that are hypothesized to relate to achievements of students with disabilities in one or more of the outcome domains outlined in Chapter 1.¹

The SEELS Conceptual Framework

A conceptual framework is an organizational tool for specifying the primary elements involved in a particular phenomenon and the relationships among them. In the case of SEELS, the conceptual framework identifies the elements related to the achievements of students with disabilities during elementary and middle school (Exhibit 2-1), as suggested by professional practice and previous research. It suggests that the characteristics of students themselves are fundamental to understanding variations in achievements, including factors related to their disability, functioning, and demographics. However, household and family environment also help shape the achievements of students across domains. From a policy and research perspective, it also is essential to assess the relationships between specific programs of instruction and services that are provided to individual students with disabilities and the variations in their achievements. These factors represent the most promising arenas for intervention to improve results. The factors within these components and the expected relationships to outcomes that led to their inclusion in the analyses are described below.

¹ A similar discussion of factors related to achievements of students with disabilities that focuses on those in secondary school is presented in Wagner, 2003.

Exhibit 2-1
SEELS Conceptual Framework



Individual Student Characteristics

The outcomes identified in Chapter 1 occur through dynamic processes in which students with disabilities are active participants. For example, the learning that promotes academic achievement occurs as teachers and students interact with each other and with instructional content and activities. What students bring to these processes are important elements in their success. Three major types of characteristics are hypothesized to relate to the achievements of students with disabilities in multiple domains: disability characteristics, functioning, and demographics.

Disability Characteristics

In considering differences among the achievements of students with disabilities in their elementary and middle school years, it is important to understand those differences for students with various kinds of disability, as identified by:

- **Disability category.** The nature of a particular student's disability can powerfully condition his or her experiences, which may, in fact, be more like the experiences of students who have no labeled disability than like the experiences of students with a different kind of disability. Dichotomous

variables are included in analyses that distinguish students according to the federally defined special education disability categories (Appendix A presents category definitions).² The assignment of students to a disability category is based on the primary disability designated by the student's school or district in the 1999-2000 school year. Almost three-fourths of students receiving special education in the SEELS age group are classified as having a learning disability (43%) or a speech impairment (30%). Students with mental retardation and emotional disturbances make up 9% and 6% of students, respectively. Another 5% of students are classified as having other health impairments. The seven remaining disability categories account for about 6% of students with disabilities. The nature of a student's disability is hypothesized to account for much of the variation in achievements, with different disabilities being associated with positive outcomes in different domains (Wagner, Marder, Blackorby, Cameto, Newman, Levine, et al., 2003).

- **Attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD).** The behaviors that tend to characterize ADD/ADHD—distractibility, poor impulse control, and excess energy—can have serious negative consequences for the ability of students to succeed academically and socially (Blackorby, Chorost, Garza, & Guzman, 2003; Marder, Wagner, & Sumi, 2003; Reeve, 1994; Zentall, 1993). Thus, having ADD/ADHD is expected to exert its own influence on achievements of students with disabilities, independent of the nature of their primary disability category, especially in the academic achievement domain, in which the ability to focus attention is particularly important. According to parents' reports, 27% of students with disabilities receiving special education services in elementary and middle school have been diagnosed with ADD/ADHD, including 70% of those in the other health impairment category—the category in which students who have ADD/ADHD as a primary disability generally are included (Davila, 1991). However, ADD/ADHD also is a secondary disability for many students in other disability categories, including 65% of those with emotional disturbances and 28% of those with learning disabilities (Wagner & Blackorby, 2002).
- **Age at identification of disability.** Early identification of a disability indicates that it affects functioning early in the developmental process, whereas later identification suggests that some degree of development occurred without the potentially limiting effects of disability. Thus, students whose disabilities were identified at an earlier age are expected to have greater challenges to achievement than students who experienced normal

² For analysis purposes, the deaf-blind category was combined with the multiple disability category. In multivariate analyses, dichotomous variables such as these statistically contrast the effects of being in a category against being in a comparison category. The learning disability category was chosen as the comparison category because it is the largest disability category and, therefore, most closely represents the experiences of students with disabilities as a group.

development for a longer period before the onset of disability (Wagner, Marder, Blackorby, et al., 2003). Parents reported the age at which students first exhibited a physical, learning, or other disability or problem for which they eventually were diagnosed. Although the average age is 4.4 years, approximately one in four students have disabilities that first were recognized when they were infants or toddlers, and another 22% have disabilities or delays that were identified in their preschool years. School entry, at age 5 or 6, was when almost one-quarter of students first had their disabilities identified, whereas 12% did not have their disabilities identified until they were at least 8 years old (Wagner & Blackorby, 2002).

- **Number of types of function influenced by disability.** The number of functional domains affected by disability indicates the breadth of the potential impact of disability on the outcomes students may achieve. To assess the breadth of functional impacts of students' disabilities, parents were asked to report whether students experienced limitations in six areas: general health; vision; hearing; use of arms, hands, legs, and feet; speech production; understanding of speech; and participation in bidirectional communication. Parents of students with disabilities report that their children have problems in an average of between one and two of these areas (Blackorby, Levine, & Wagner 2002).

Functioning

SEELS findings demonstrate the considerable variation in functional abilities across several dimensions among students who share a primary disability category designation (Blackorby, Wagner, Cadwallader, Cameto, Levine, & Marder, 2002). Prior research concerning secondary school students with disabilities also has shown that differences in functional abilities are strongly related to students' outcomes across multiple domains (D'Amico, 1991; Newman, 1991; Wagner, 1991a). Hence, analyses include variables that distinguish the level of functioning of students with disabilities in the areas noted below. Although each of these measures of functioning is an indicator within an outcome domain, as described in Chapter 1, they have not been chosen for multivariate analyses. Instead, they are used as independent variables in explaining variation in other outcomes.

- **Self-care skills.** Higher self-care abilities are expected to relate to higher achievement in outcome domains for which physical functioning is particularly important (e.g., independence; Cameto, Levine, et al., 2003). As described in Chapter 1, SEELS measures self-care through parents' reports of students' abilities to dress and to feed themselves, and the sum of these two items represents the SEELS self-care scale, which ranges from 2 to 8, with a mean of 6.9.
- **Functional cognitive skills.** As an indicator of the ability to process information that is important to daily functioning, higher functional cognitive skills are expected to relate strongly to better outcomes in most outcome

domains (Wagner, Marder, Blackorby, et al., 2003). As described in Chapter 1, SEELS measures functional cognitive skills through parent reports of students' abilities to read common signs, to tell time on an analog clock, to count change, and to look up telephone numbers. These items sum to represent the functional cognitive skills scale, which ranges from 4 to 16, with a mean of 11.6.

- **Social skills.** The ability to interact effectively with others is crucial to success at school, at home, and in the community. Hence, higher social skills are expected to relate to higher achievement across the outcome domains, with particular relevance to social adjustment (Marder, Wagner, & Sumi, 2003). To measure social skills, SEELS employs items from the Social Skills Rating System (SSRS; Gresham & Elliott, 1990a). High social skills are reported for 20% of SEELS students, and 13% are reported to have low overall social skills. The overall social skill scale ranges from 9 to 27, with a mean of 20.4.
- **Self-determination skills.** The ability to persist with tasks to completion is expected to be positively associated with other aspects of independence, as well as with higher levels of school engagement and academic achievement. One in three students with disabilities are reported to frequently “keep at a task until it is finished.”
- **Students' general health.** Students who are in poor health may find it difficult to attend school. For example, the Centers for Disease Control and Prevention (2003) estimate that from 1994 to 1996, 14 million school days were missed because of asthma—the most common long-term childhood disease, which affects 6.3 million children. For this reason, parents' reports of the general health of students with disabilities are included in the analysis of absenteeism. Parents report that students with disabilities are about as healthy as students in the general population, with 71% reported to be in excellent or in very good health, and 8% in fair or in poor health (Blackorby, Wagner, Cadwallader, Cameto, Levine, & Marder, 2002).

Demographic Characteristics

The factors noted above suggest that the nature of a student's disability could have strong associations with his or her experiences. However, especially during the rapid developmental changes that occur from elementary to secondary school, other fundamental characteristics also help shape achievements:

- **Age.** Students with disabilities in SEELS were ages 6 through 13 when interview data were collected from parents, and ages 7 through 14 when survey and assessment data were collected from school staff and students. This range represents a wide variety of student development, from entering formal schooling for the first time to preparation for secondary school and adolescence. Students undergo significant changes in physical and psychological development that relate to their ability to function and to succeed. Research demonstrates the influence of age on the academic

performance of secondary school students with disabilities (Blackorby, Chorost, et al., 2003), as well as their social adjustment (Marder, Wagner, & Sumi, 2003) and their independence (Cameto, Levine, et al., 2003).

- **Gender.** In the general population, differences in the achievements of young men and of young women both in school and in the workplace are notable (National Center for Education Statistics, 2002). Important differences have been noted for students with disabilities regarding aspects of academics (Wagner, 1992), independence (D’Amico, 1991), and social adjustment (Newman, 1991; Cadwallader, Cameto, Blackorby, Giacalone, & Wagner, 2002). Whereas students in the general population are split about evenly between boys and girls, almost two-thirds of students with disabilities in the SEELS age range are boys. In addition, it is clear that gender is intertwined with the nature of students’ disabilities, with males accounting for a much higher proportion of some disability categories (e.g., autism, emotional disturbances) than others (e.g., hearing or visual impairments; (Marder & Wagner, 2002). Including both gender and disability in multivariate analyses enables identification of their independent relationships to outcomes.
- **Racial/ethnic background.** Research documents the relative disadvantage minority students experience in education and employment domains (National Center for Education Statistics, 2002), as has research on students with disabilities (Blackorby, Chorost, et al., 2003; Cameto, Levine, et al., 2003; D’Amico, 1991; Wagner, 1991a, 1991b). A similar pattern is expected to emerge in the analyses reported in subsequent chapters. Overall, 63% of students with disabilities are white, 19% are African-American, 14% are Hispanic, and 4% have other or multiple racial/ethnic backgrounds. However, this distribution varies across disability categories, with the categories of mental retardation, emotional disturbance, and autism having particularly large percentages of African-Americans and particularly small percentages of Hispanic students (Marder & Wagner, 2002). Again, multivariate analyses permit independent identification of the relationships of these factors to outcomes for students with disabilities.

Household Characteristics

Although the variables described above are expected to do much to help illuminate important differences in the experiences of students with disabilities, focusing on these variables alone would mistakenly imply that students’ outcomes are determined solely by somewhat immutable characteristics that children bring with them to school and would ignore the important role of the household and family contexts in shaping the experiences of students. The following characteristics of the households of students with disabilities are expected to relate to their achievements in the ways noted below:

- **Household income.** Poverty has been shown to have serious negative consequences for children and students as a whole (Duncan & Brooks-Gunn,

1997) and for the achievements of students with disabilities (Newman, 1991; Wagner, 1991a; Wagner, Marder, Blackorby, et al., 2003) and beyond (Wagner, Blackorby, Cameto, & Newman, 1993). A similar pattern is expected for SEELS analyses. One-fourth of students with disabilities live in poverty, a higher rate than in the general population (Wagner, Marder, & Cardoso, 2002). However, the incomes of families of students with disabilities range widely, with 19% living in households with annual incomes of \$15,000 or less, and 13% living in households with incomes of more than \$75,000. Because poverty often is a characteristic of the households of children and students of color, including both household income and the racial/ethnic background of students with disabilities in analyses helps disentangle their interrelationships.

- **Family support for education.** Parent support for learning is an important contributor to students' success in school for the general student population (Epstein, 1987, 1997; Henderson & Berla, 1994; Thorkildsen & Scott Stein, 1998). Positive outcomes associated with family involvement in and support for education include: better grades (Clark, 1983), more consistent attendance (National Middle School Association, 2000) and homework completion (Epstein, Simon, & Salinas, 1997), and more positive behavior (Epstein, 1987). Positive associations also have been found for secondary school students with disabilities (Wagner, Marder, Blackorby, et al., 2003). Similar associations are expected for students with disabilities. Two scales have been constructed to test this expectation. One scale, which assesses family involvement in education at home, is the frequency (on a 4-point scale) with which parents report helping students with homework and talking with students about school, and a dichotomous variable indicating whether the family provides a computer at home that the student uses for educational purposes; summing these items produces a scale ranging from 0 to 9, with a mean of 7.9. Family involvement at school is assessed with a scale constructed by summing parents' reports on a 4-point scale of the frequency with which they did the following in the 2001-02 school year: "attended a general school meeting, for example back-to-school night or the meeting of a parent-teacher organization"; attended a school or class event, such as a play, sports event, or science fair; or "volunteered at school, for example chaperoning a field trip or serving on a committee." The scale ranges from 0 to 12, with a mean of 4.3.
- **Family expectations.** Research has demonstrated that having clear, consistent, and high expectations for academic performance plays a key role in student achievement for the general population (Thorkildsen & Scott Stein, 1998). Similar relationships have been found for students with disabilities (Wagner, Blackorby, Cameto, & Newman, 1993; Wagner, Marder, Blackorby, et al., 2003) and were expected to emerge in SEELS analyses. Analyses reported in this chapter include responses from parents regarding their expectations that their children with disabilities will "attend school after high school," and "live away from home on his or her own

without supervision.” Expectations for students are generally high. Overall, 77% of parents expect students “definitely” or “probably” to attend postsecondary school, and 87% expect their children to live independently.

School Programs and Experiences

School programs, support services, and other experiences can and do help shape student’s achievements, particularly in the domains of academic engagement and performance. Some aspects of students’ school programs are expected to influence their achievements in a variety of domains. For example, spending a greater part of the school day in general education classes exposes students with disabilities both to more challenging content than many special education classes offer and to opportunities to interact with peers without disabilities. These experiences are expected to enhance the academic engagement and performance of students with disabilities, as well as their social integration. Thus, the specific aspects of students’ school programs and services that are included in analyses of particular outcome domains are those that relate most directly to those domains. Factors include the following:

Course-taking

- **Extent of participation in general education classes.** Including students with disabilities in general education classrooms has been shown to benefit both students with disabilities (Baker, Wang, & Walberg, 1994; Waldron, 1997) and general education students (Stainback & Stainback, 1996; Staub & Peck, 1994; Waldron, 1997). Thus, a measure of the level of involvement of students with disabilities is included in analyses of school engagement, academic performance, and social adjustment. School staff reported the number of minutes students with disabilities spent in general education classes, special education resource rooms, self-contained special education classes, and individual or homebound settings, enabling a calculation of the percentage of the types of courses students with disabilities take that are in general education classes, which has a mean of 60%.

This aspect of students’ school programs is expected to have a somewhat complex relationship with academic performance. For example, exposure to the more challenging content in general education classes, relative to many special education classes, is expected to help students with disabilities acquire the skills appropriate to their grade level (Blackorby, Chorost, et al., 2003), and research also has demonstrated the relationship of general education participation to lower absenteeism (Newman, Davies, & Marder, 2003). On the other hand, the more challenging content and, often, different grading standards in general education classes may be reflected in poorer grades for students with disabilities relative to their peers in special education classrooms. In fact, research on secondary school students with disabilities has demonstrated that spending a greater proportion of the school day in general education classes was related to lower overall grades and higher rates

of course failure for students with disabilities (Blackorby, Chorost, et al., 2003; Wagner, 1991a). Relationships also are expected in the social adjustment domain (Marder, Wagner, & Sumi, 2003).

- **Average class size.** Both the content of courses taken by students with disabilities and the context within which those courses are taken potentially influence their outcomes. One aspect of interest is class size. In the general education arena, many states, as well as the federal government, have launched initiatives to reduce class size at various grade levels in the belief that teachers teach and students learn better when classes are smaller, both for students in the general population (Addonizio & Phelps, 2000; Finn, Gerber, Achilles, & Boyd-Zaharias, 2001; McLaughlin & Drori, 2000; Mitchell & Mitchell, 2001) and for students with disabilities (Bulgren et al., 2002). SEELS asked school staff to report the number of students in each student's primary language arts class. Across settings, class size averages 17.7 students.

Services, Accommodations, and Supports

It is important to understand the relationships between the outcomes of students with disabilities and the kinds of services, accommodations, and supports they are provided to help improve those outcomes. To that end, a variety of measures of these factors are included in the analyses. However, interpreting the relationships that result is problematic. Although these kinds of supports were expected to benefit students who receive them, receiving them often is conditioned on students' exhibiting difficulty in the relevant outcome domain. Students in academic difficulty receive tutoring assistance; those exhibiting behaviors that are problematic for themselves and others may have behavior management plans. Thus, it is extremely difficult to disentangle the effects of receiving services and supports from the factors that indicate need for them in the first place when both are measured at a single point in time. Longitudinal analyses in subsequent waves of SEELS will provide a clearer look at the effects of receiving services, accommodations, and supports at one point in time on later outcomes. Nonetheless, current analyses explore the relationships between relevant outcomes and the following:

- **Tutoring.** Because tutoring has been shown to have beneficial effects on students' academic performance and behavior (DuPaul, Ervin, Hook, & McGoey, 1998; Longwill & Kleinert, 1998), analyses of students' academic performance include exploration of relationships to students' receiving help from an adult or peer tutor, as indicated by school staff or parents. Although receiving such help would be expected to relate to better academic performance for the students who need it, the confounding of need with service receipt, mentioned above, makes expectations regarding the direction of the relationship unclear. Overall, one-half of students with disabilities were reported to receive help from a tutor.
- **Receiving social adjustment support services.** The Individuals with Disabilities Education Act Amendments of 1997 (IDEA '97) requires the

teams that plan a student's individual education program (IEP) to consider, if appropriate, strategies to address behavior that impedes a student's learning or that of others [34CFR300.346(a)2(i)]. An IEP or behavioral intervention plan could call for a variety of behavioral supports or programs that have been shown to improve behavior (Sprague, 1995; Sprague et al., 2001). In analyses of social adjustment outcomes, relationships with a variety of such supports, services, and programs are explored. These services and programs and the percentage of students who receive them include: mental health services (9%), social work services (6%), a behavior management plan (19%), and services from a behavioral interventionist (7%). In some analyses, the sum of these services and supports is included; it ranges from 0 to 4, with a mean of .4.

- **Receiving instructional accommodations or modifications.** Research has demonstrated the positive impacts of accommodations on the academic performance of students with disabilities, as indicated by test scores for elementary and middle school students with disabilities (Bielinski, 2001; Thurlow, Hurley, Spicuzza, & El Sawaf, 1996). Thus, an indicator of receipt of such accommodations is included in SEELS analyses of academic performance. School staff indicated whether students receive the following: more time to take tests, tests that were read aloud, modified tests, alternative assessments, modified grading standards, slower-paced instruction, more time to complete assignments, shorter or different assignments, or help with learning strategies or study assistance. A scale of the extensiveness of such support was constructed by summing the number provided each student. The scale ranges from 0 to 9, with a mean of 3.3.
- **Receiving communication or presentation accommodations or modifications.** In addition to instructional and/or testing accommodations, school staff indicated whether students receive each of the following accommodations related to communication or presentation of information: help from a reader or interpreter, use of books on tape, use of a calculator or a computer when other students were not allowed to use one, communication aides (e.g., Touch Talker™), and computer hardware or software designed for students with disabilities. A scale of the extensiveness of such support was constructed by summing the number provided each student. The scale ranges from 0 to 6, with a mean of .6.
- **Curriculum modifications.** An additional mechanism available to educators in their efforts to support students with disabilities is to modify the curriculum and associated materials to suit student needs better (Warger & Pugach, 1996). School staff reported whether the students' primary language arts curriculum materials are grade-level materials without modification, with some modification, or with substantial modification, or are specialized materials. A scale of the level of curriculum material modification was constructed by summing these two items. The scale ranges from 0 to 8, with a mean of 3.7.

- Instructional grouping.** With larger and increasingly diverse classrooms, many instructional designers seek to alter the size of the instructional group to meet the range of needs found in typical classrooms better. Variations in instructional group size affect many aspects of the instructional environment, including content delivery, student interaction, individual attention and individualization, and assessment. The use of small groups has been shown to influence student performance positively, including the performance of students with disabilities (Elbaum, Vaughn, Hughes, & Moody, 1999; Fuchs, Fuchs, Kazdan, & Allen, 1999; Slavin, 1996; Vaughn, Bos, & Schumm, 1997). These analyses include the frequency of whole class, small group, individual instruction from the teacher, and individual instruction from another adult in the students' primary language arts classroom.
- General instructional activities.** The activities that occur in the context of instruction represent the factors that most directly touch the daily experiences of students and could be considered likely to more directly affect student outcomes (Dreeben & Barr, 1988a, 1988b; Gersten, 1998; Gersten & Dimino, 1989; Pressley, Roehrig, Bogner, Raphael, & Dolezal, 2002; National Center for Education Statistics, 1999). It is expected that students who more actively participate in classroom activities will have better academic outcomes. In the context of students' primary language arts class, school staff rated the frequency that students respond to questions, participate in class discussions, work independently, work with a peer or a group, work on a project or presentation, or present in front of the class. A scale representing the overall level of participation in instructional activities was constructed by summing these items. The scale ranges from 0 to 28, with a mean of 22.1.
- Literature-oriented activities.** The ultimate purpose of language arts instruction is to develop students' skills so that they can access a variety of types of literary and expository content, and can learn to express themselves in writing (Harris, Graham, & Deshler, 1998; Lyon, 1998; O'Connor, 1999; Warger & Pugach, 1996). It is expected that students who frequently engaged in such activities will have more positive outcomes, particularly in regard to measures related to reading. In the context of students' primary language arts class, school staff rated the frequency that students complete writing assignments, read aloud or silently, and read literature or informational materials. A scale representing the overall level of participation in literature-oriented activities was constructed by summing these items. The scale ranges from 0 to 12, with a mean of 9.5.
- Skill-building activities.** For most students, elementary school instruction includes a direct focus on acquiring skills necessary for fluent reading. These skills may be especially important for students with disabilities, who frequently are referred to special education because of difficulties in reading (Fuchs et al., 2002; Grossen & Carnine, 1993; Lyon, 1998; O'Connor et al., 1992). It is expected that students who frequently engaged in skill-building activities will have more positive outcomes, particularly in regard to

measures related to reading. School staff rated the frequency that language arts instruction focuses on phonemic skills, vocabulary building, or sight word reading. A scale representing the overall level of participation in skill-building activities was constructed by summing these items. The scale ranges from 0 to 12, with a mean of 9.8.

- **Teacher education.** The need for highly qualified teachers is central to NCLB, and one aspect of teachers' qualifications is the level of education they attain (Serim, 2002). Teachers who are certified in the content they teach and who have higher levels of education are often considered to be able to produce improved outcomes for students (Allinder, 1995; Darling-Hammond, 2000). In these analyses, the level of educational attainment of primary language arts teachers—ranging from B.A. to master's degree—is included as an independent variable.

Other School Experiences

In addition to the courses, settings, and services and supports that characterize the school programs of students with disabilities, other current and past experiences of schooling are expected to relate to their outcomes, particularly in the domains of school engagement and academic performance, including the following:

- **Student mobility.** Research has demonstrated relationships between high rates of student mobility and poor school performance and both frequent behavioral problems in general education (Demie, 2002; Rumberger, 2002; Simpson & Fowler, 1994; Wood, Halfon, Scarlata, Newacheck, & Nessim, 1993), and social adjustment problems among students with disabilities (Marder, Wagner, & Sumi, 2003). These negative consequences of student mobility may result, at least in part, from the disruption and lack of continuity in students' learning experiences, which for students with disabilities, may include compromised service coordination, the potential for poor communication between new and old schools and service systems, and inadequate record sharing (Kerbow, 1996). For these reasons, parents' reports of the number of times students with disabilities have changed schools, other than because they were moving from one grade level to the next, are included in analyses of school engagement, academic performance, and social adjustment.
- **Grades.** Because links have been identified between the academic performance and the social behavior of students (Center for Mental Health in Schools, 2000; Fad & Ryser, 1993; Gresham & MacMillan, 1997; Gunter, Denny, & Venn, 2000), a measure of students' grades is included in analyses of social adjustment. Parents were asked to report students' overall grades on a 9-point scale (e.g., mostly As, mostly As and Bs, mostly Bs). For students whose parents were not interviewed, teachers' reports of the grades given students in their language arts classes were used (recorded on the same 9-point scale). If students did not receive these kinds of letter grades, parents and teachers were asked to report whether students' work is "excellent,"

“good,” “fair,” or “poor,” and those responses were converted to letter grades (described in Appendix A).

- **Absenteeism.** Because absenteeism results in students’ missing exposure to curriculum and instruction and may interfere with relationships and behavior within the classroom, the number of days students are absent in a month, excluding suspensions and expulsions, is included in analyses of school engagement, academic performance, and social adjustment.
- **Grade retention.** The intention in making low-performing students repeat a grade is to provide an opportunity for them to master material missed during their first exposure at a given grade level. Although public policy is shifting to disapproval of the practice of “social promotion” of underachieving students, research on the effects of grade retention provides little consistent evidence that it benefits students academically (Holmes, 1989); to the contrary, grade retention is linked to higher rates of retained students dropping out of school (Roderick, Nagaoka, Bacon, & Easton, 2000) and poor social adjustment and employment outcomes after high school (Jimerson, 1999). SEELS analyses include a measure of parents’ reports of whether students have ever been retained at grade level in analyses of school engagement, academic performance, and social adjustment.

The following chapters report the relationships among the wide array of characteristics of individual students with disabilities, their households, and their school programs and experiences with outcomes in the school engagement, academic performance, social adjustment, and independence domains.