

7. *Students with Disabilities in Elementary and Middle School: Progress among Challenges*

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This report addresses the question of how students with disabilities are doing in their elementary and middle school years. That time is a period of rapid development for students, encompassing the beginning of the process of formal education to preparing for the demands of high school and adolescence. In important ways, these years provide the formative experiences and the skills that will contribute to students' success later. It is also during this time when intervention to address problems is believed to have the greatest likelihood of success in mitigating the extent and effects of problems. This chapter summarizes how young students with disabilities are doing across a range of outcomes, including school engagement, academic performance, social adjustment, and emerging independence. Important differences in these outcomes for students who differ in their primary disability classification are noted. A look across outcome domains then identifies aspects of individual students, their households, and their school programs and experiences that relate to the outcomes they achieve. Finally, implications are drawn for the policies, practices, and programs that affect the lives of students with disabilities in their elementary and middle school years.

Students Outcomes—Making Progress or Falling Behind?

The question of whether elementary and middle school-age students with disabilities are making progress or falling behind is difficult to answer with a single statement. There are indications of both real achievement and causes for concern across the outcome domains of school engagement, academic performance, social adjustment, and emerging independence.

A look at the lives of students with disabilities at school reveals that most students with disabilities like school, and at least half describe themselves as highly motivated and are rated by their teachers to be highly engaged in their education. Further, according to parents, many students are doing well in school, as measured by teacher-given grades. Almost one-third are reported to receive “mostly As and Bs,” and only 4% reportedly receive “mostly Ds or Fs.” At the same time, standardized test scores of student skills in reading and in mathematics illustrate considerable diversity in student performance; some students receive scores comparable to their general education peers, but scores below the 25th percentile are common for many more students with disabilities. Similarly, teacher reports of reading and mathematics abilities for students with disabilities show them often to be more than 1 to 2 years behind grade level, on average, in both their reading and mathematics abilities. These skill deficits in

core academic subjects do not bode well, given that students will encounter increasingly difficult content as they move on to secondary school and beyond.

In the social domain, students with disabilities also are considered to be fairly skilled, according to parents; more than 80% are rated in the medium or high range on a scale of overall social skills. Almost two-thirds of students with disabilities belong to organized groups at school or in the community, and a similar percentage see friends in informal get-togethers at least weekly. Overall, almost 20% of students have neither of these forms of social engagement outside of class. More than a third of students with disabilities were subject to disciplinary actions at school in the 2000-01 school year even though parents report that 90% of them get along with other students and 50% have teachers who report they follow directions in class.

Students with disabilities show signs of emerging independence in their personal behaviors at home and in the community. They are beginning to demonstrate important self-determination skills; parents report that more than one-third persist in completing tasks “very often.” The vast majority of students with disabilities are able to manage their personal care needs, and parents report about half are able to do common cognitive processing tasks, such as counting change and telling time, “very well.” Nonetheless, these activities remain challenging to some degree for about half of students with disabilities.

In summing up, what can be concluded from this diversity of experience? The answer depends in part on the yardstick against which the outcomes of students with disabilities are measured. The experiences of students in the general population are one standard against which to assess those with disabilities, and they are used throughout this report when comparable data exist for the two groups. However, using this standard does not provide an unequivocal answer to whether students with disabilities are doing well or poorly.

With respect to academics, as a group, students with disabilities’ standardized test scores place most of them in the lowest quartile in comparison with the norm group. Although certainly low, these scores illustrate in part the implications of disability in academic tasks and the need for specialized education. However, students in different disability categories compare with general education peers quite differently. Students with visual or speech impairments have test score patterns that resemble those of the general population, particularly in mathematics. On the other hand, students with mental retardation, autism, or multiple disabilities have test scores that overwhelmingly cluster at the low end of the range.

In the social domain, although most students with disabilities have relatively good social skills, they still rank lower than students in the general population on many of the measures, which is a cause for concern. Although their relative skills deficit does not appear to relate to lower levels of organized group memberships, it raises the question of whether the negative implications of poor social skills will accumulate as students with disabilities age.

From this summary of the outcomes of students with disabilities, it is clear that their achievements are exemplified by diversity across domains and across students.

What Makes a Difference?

As depicted by a variety of measures across multiple outcome domains, students with disabilities experience the full range of possible experiences—from high achievement to significant struggles. What accounts for those variations in experience? What factors help explain why some students with disabilities do well and why others are not succeeding in meeting the challenges they face? Multivariate analyses suggest that characteristics of students themselves, as well as of their households and their school programs and experiences, all come into play in explaining the diversity of experiences of students with disabilities.

Disability and Functioning

Disability characteristics. SEELS analyses show that both the nature of a student’s primary disability and the functional limitations it imposes independently influence the outcomes he or she experiences. Yet different disabilities have different impacts across the outcome domains. For example, students whose functional abilities are similar have the following kinds of differences in outcomes associated with the nature of their disability:

- Relative to students with learning disabilities, those with visual impairments experience more positive outcomes at school, with higher locus of control and standardized test scores in reading and mathematics, but more negative social outcomes in terms of having friends and belonging to groups, apart from other differences between students.
- Like students with visual impairments, those with orthopedic impairments generally succeed better at school, relative to those with learning disabilities, but they have less social involvement with extracurricular groups and friends.
- Students with emotional disturbances tend to have higher test scores but lower grades than students with learning disabilities, other factors held constant, and they are equally likely to have active friendships and group memberships. However, they are much more likely to experience negative consequences for behavior at school in terms of disciplinary actions.
- Students with mental retardation have similar outcomes to those with learning disabilities across most domains, independent of differences captured in the functional skills measures discussed below. An exception is that the cognitive nature of the disability is reflected in their reading and mathematics skills, which are significantly farther behind grade level than students with learning disabilities. However, there are no significant differences in grades related to having mental retardation vs. a learning disability, independent of other differences in functioning among students or their placements in general education settings.

SEELS also has investigated the independent relationships between outcomes and having attention deficit or attention deficit/hyperactivity disorder (ADD/ADHD). Apart from other differences among students in their disability, functioning, or other characteristics, having ADD/ADHD is associated with several negative school-related outcomes, including poorer classroom engagement behaviors in special education settings, poorer grades, and more disciplinary actions. However, ADD/ADHD is not associated with lower academic performance; students whose parents report that have that disorder are no more or less behind in reading or mathematics than students who do not. In fact, having ADD/ADHD is positively associated with some social outcomes; students with ADD/ADHD are more active than others in extracurricular groups.

Two other characteristics of disability have also been considered in SEELS multivariate analyses. The number of areas in which students experience functional limitations and the age when their disabilities first were diagnosed were considered proxies for the breadth or severity of students' disabilities, and were expected to show similar relationships with poorer outcomes.

The breadth of disability, in terms of the number of areas (e.g., use of appendages, hearing, vision, communication) in which students have functional limitations is related to five outcomes and age of identification relates to three indicators. For example, dealing with the consequences of disability from an early age is related to higher classroom engagement in general education, higher motivation for schooling, and higher grades, but lower test scores in reading. Similarly, having functional limitations in more areas is associated with higher motivation for schooling and a lower likelihood of disciplinary actions, but also with seeing friends less frequently. These differences underscore the complex relationships between disability and achievements.

Functioning. As was the case with indicators of the breadth or severity of disability, various measures of students' functional abilities could be expected to relate in similar ways to outcomes, with higher skills being consistently associated with better outcomes. However, as was the case above, SEELS analyses show that different kinds of skills relate differently across the outcome domains in terms both of intensity and of relationship direction. For example:

- Higher functional cognitive skills are, surprisingly, not related to better school engagement. It is, however, strongly associated with higher academic achievement in both reading and mathematics, as expected. The amount of increased academic performance associated with higher cognitive skills is conditioned by student self-care skills. The difference between high and low cognitive skills among students with high self-care skills is large (about 17 points). However, the difference is three times that size among students with low self-care skills. This pattern exists in the domain of locus of control as well. Finally, higher functional cognitive skills also relate to a higher likelihood of group membership and active friendships.
- Although disabilities that limit students in managing basic self-care needs might be assumed to have fairly pervasive and negative affects on outcomes,

SEELS analyses only partially support that conclusion. Relatively poorer self-care skills are associated with higher absenteeism, independent of other differences among students. However, in the case of academics, the difference between having high and low self-care skills is conditioned by students' cognitive skills. For students with high cognitive skills, having higher self-care skills is actually negative and fairly large. In contrast, among students with low cognitive skills, increased self-care skills are positively associated with academic performance.

- Being more socially skilled would be expected to relate to better social adjustment outcomes, and it does in some respects. Students with higher social skills ratings by parents are significantly more likely to belong to groups and see friends regularly and are less likely to be subject to disciplinary actions, other factors held constant. Students with higher social skills also are absent more and have lower test scores in reading, but they have higher grades, reinforcing the notion that grades reflect more than academic ability.
- The ability to persist with tasks to completion has beneficial effects for students in school. Those rated as more persistent by parents also exhibit more engagement in classroom activities and receive better grades than less persistent peers, other things being equal. This self-determination skill does not relate to academic abilities in reading and mathematics, apart from other differences among students.

Students' general health. This aspect of functioning is included in analyses of absenteeism and demonstrates one of the strongest relationships to that indicator of engagement of any factor. The strong relationship between health and absenteeism underscores the fact that absenteeism from school can be both voluntary and involuntary.

Taken together, these aspects of students' disability and functioning explain much of the variance in the outcomes assessed, although that is more the case for some outcome domains (e.g., independence) than others (e.g., academic performance). Yet characteristics of students apart from their disabilities also contribute to an understanding of variations in their outcomes, as noted below.

Individual Demographic Characteristics

Several of the demographic characteristics that are typically examined in studying student outcomes in the general population, such as age, gender, and race/ethnicity, are intertwined with issues of disability (Wagner, Marder, Blackorby & Cardoso, 2002). For example, students with speech impairments tend to be younger and students with emotional disturbances older than those in most other disability categories. Boys make up much larger proportions of students with emotional disturbances or autism than those with other disabilities. African-Americans are disproportionately represented among students with mental retardation or emotional disturbances. For these reasons, simple bivariate descriptions of outcomes for students with disabilities who differ in age, gender,

or race-ethnicity cannot be interpreted in a straightforward way. It is never clear whether it is age, gender, race/ethnicity, disability, or a combination of these attributes that contributes to differences in the outcomes observed. Multivariate analyses permit a disentangling of these factors by identifying their independent relationships with outcomes, holding constant disability and other factors in the analyses.

Age. Even when students with disabilities are in the comparatively young 6-to-13-year-old¹ age range, relative differences in age relate to some aspects of their outcomes, but in different ways and possibly for different reasons. For example, older students with disabilities exhibit a pattern of results indicating greater difficulty in several domains. Older students are less motivated and are more likely to receive disciplinary actions than younger peers. Analyses also reveal that older students tend to be further behind in their reading and mathematics abilities and have lower test scores, which may suggest that the skills of students with disabilities do not develop at the same rate as those of students in the general population, so that, with the passage of time, they fall farther behind. In the social domain, older students are more likely to belong to groups, but are less likely to spend time with friends regularly.

Gender. SEELS analyses illustrate a number of differences in several outcome domains between boys and girls. Boys experience greater challenges in engagement and social adjustment at school, whereas girls have more difficulty in mathematics. Independent of other differences, boys with disabilities are more frequently absent and subject to disciplinary actions and have poorer classroom engagement behaviors in special education. On the other hand, boys also are more motivated for school than girls and more likely to see friends frequently. Girls are both further from grade level in mathematics and have lower test scores in mathematics calculation than boys.

Race/ethnicity. Not only is race/ethnicity intertwined with disability in that students of different racial/ethnic backgrounds are differentially represented across disability categories, it also is inextricably linked with household income. For example, the likelihood of students with disabilities living in poverty is almost three times as high for students with disabilities who are African-American (51%) or Hispanic (41%) than white (14%; Wagner, Marder, & Cardoso, 2002). In addition, both students of color with disabilities and those from lower-income households experience other conditions often associated with poor outcomes, such as single-parent families and low parent education. However, multivariate analyses that include both race/ethnicity and household income indicate that race/ethnicity is independently related to a relatively small number of student outcomes, irrespective of disability, income, and other differences between students. Compared with white students with disabilities, both African-American and Hispanic students have higher scores for motivation for schooling. However, the outcome patterns of these two groups diverge in

¹ Students were ages 6 through 13 when Wave 1 parent interview data were collected and 7 through 14 when Wave 1 school questionnaires were distributed.

other areas. Relative to white students with disabilities, African-Americans are further from grade level in mathematics and are more likely to be subject to disciplinary actions at school than white students with disabilities. In contrast, Hispanic students with disabilities tend to be less likely to participate in organized group activities than white students, independent of income and other differences between them. These different patterns of experiences for African-American and Hispanic students with disabilities caution against considering “minority students” or “students of color” as a single group in assessing their outcomes relative to white students.

Primary language. Independent of racial/ethnic differences among students with disabilities, using a language other than English at home does not appear to relate to students’ outcomes, with one exception: relative to those who primarily use English at home and irrespective of other differences between them, students with disabilities who primarily use a language other than English at home are less likely to belong to a group.

Household Characteristics

The household context in which students with disabilities live can be expected to help shape their experiences across outcome domains. SEELS analyses included three aspects of students’ household environments in analyses of outcomes: household income, levels of family support for education at home and at school, and parents’ expectations for the futures of their adolescent children with disabilities.

Household income. As mentioned above, students with disabilities are more likely to live in low-income households than students in the general population. In addition, SEELS analyses show a pattern of less positive outcomes for low-income students, holding constant other factors. These findings may help explain some of the difference in some outcomes between students with disabilities and those in the general population, apart from differences related to disability. Regarding school engagement, students with disabilities from lower-income households are more likely to be absent from school and are less likely to demonstrate behaviors that indicate engagement in general education and to have a high locus of control scores. Their academic performance is poorer as well; they have lower standardized test scores in reading, are farther behind grade level in reading and mathematics, and are more likely to receive poor grades. In the domain of social engagement, students from lower-income households are less likely to take part in organized group activities and are more likely to be subject to disciplinary actions at school.

Family support for education. Families of students with disabilities differ widely in the level of support they provide for the education of their children both at home and at school, although there is some evidence that their support exceeds that of families of students in the general population. For example, only 2% of parents of elementary and middle-school students in the general population reported helping with homework five or more times a week (National

Center for Education Statistics, 1998), compared with 20% of parents of students with disabilities.

Students with disabilities whose families are more involved in their schools, as demonstrated by such activities as attending school meetings or classroom events or volunteering at school, benefit from that support, or from other activities associated with it, in several ways. Those students have better grades than students with less family involvement at school. They also tend to be actively involved in organized groups (many of which are at school) and have active individual friendships. In contrast, family support for education at home (i.e., talking regularly about school and helping with homework, providing a computer for school work) is not related to many outcomes, controlling for other differences among students. The exception is that greater family support for education at home is actually negatively associated with grades, possibly because parents are more likely to provide homework help when students are doing poorly in school. Nevertheless, these findings reinforce the importance of parents' activities in support of their children in multiple domains.

Family expectations for the future. It is clear that the expectations parents hold for the future for their children with disabilities in part reflect parents' experience with and perceptions of the ways those disabilities limit activities and accomplishments. However, SEELS findings suggest that irrespective of the nature of students' disabilities and their levels of functioning, family expectations for the future also help shape the achievements of students with disabilities.

Other things being equal, students with disabilities whose parents expect that they are more likely to go on to postsecondary education after high school have higher grades, as well as higher test scores in reading than students whose parents do not share that optimism for the future. They are closer to grade level in their reading and mathematics abilities than students who are not expected to further their educations after high school. Students with disabilities whose parents hold high expectations for educational achievement also are more likely to affiliate with organized groups, many of which may be sponsored by or meet at school.

School Programs

Although individual and household factors contribute to shape outcomes for students with disabilities, schools do make a difference for students, particularly in the realm in which they are active partners—school engagement and academic performance. Course taking, curricula, instruction, services, accommodations, supports, and other experiences of students with schooling all figure into their engagement and performance. In fact, SEELS multivariate analyses have explained the most variance in the most direct measure of student learning analyzed in SEELS—test scores from Woodcock-Johnson III (WJIII)—explaining about 25% of the variation in both reading and mathematics performance. What schools do can matter for students with disabilities.

Enrollment in general education courses. Overall, students with disabilities who spend more of their time in general education classes differ in

many aspects of their disabilities from students whose course taking emphasizes those in special education settings. Therefore, to identify the associations of general education course enrollment on outcomes, differences in the disability and functioning of students in different settings must be held constant. SEELS multivariate analyses provide those statistical controls. Controlling for differences in disability, functioning, demographic, and household factors discussed thus far, greater participation in general education classrooms relates independently to the engagement, achievement, and social adjustment of students with disabilities at school.

Students with disabilities who spend more time in general education classes tend to be absent fewer days from school, are closer to grade level in their reading and mathematics abilities, and have higher test scores in those areas than students who spend less time in general education courses, irrespective of other differences between the two groups. Outside of class, students appear to accrue benefits in terms of a higher likelihood of taking part in extracurricular group activities at school or in the community.

Class size. SEELS findings offer mixed support for the notion that smaller classes facilitate student learning. Students with disabilities in larger classes have lower grades but tend to be closer to grade level in their reading and mathematics abilities than students who are in smaller classes, irrespective of other differences in their school programs or disability, functioning, demographic, or household characteristics. On the other hand, in special education language arts settings, students in larger classes have lower engagement scores.

Other services, accommodations, and supports. Results of SEELS multivariate analyses illustrate the difficulty of identifying benefits that may accrue from receiving services, accommodations, or supports while students are receiving them. Students with disabilities are provided services (e.g., tutors, mental health services), accommodations (e.g., more time to take tests, use of a reader or interpreter), or supports (e.g., a behavior management plan, books on tape) because they are deemed unable to perform up to their potential without them. Their limitations can be exhibited as negative outcomes, such as poor behavior or poor grades at school. Thus, when receipt of services, accommodations, or supports is measured at the same time as the outcomes on which students perform poorly enough to qualify for them, a negative relationship between interventions and outcomes can occur. These negative relationships are found in SEELS analyses of the relationships of a variety of academic and social supports. For example, receiving a greater number of instructional or testing modifications is related to having poorer classroom engagement behaviors in general education, having lower locus of control scores, and being farther behind grade level in both reading and mathematics, as well as having lower test scores. On the other hand, receiving a variety of social adjustment supports is related to lower classroom engagement ratings in both general and special education and a higher likelihood of being subject to

disciplinary actions, but also to being closer to grade level in reading and mathematics.

Receiving help from a tutor is unrelated to grades or reading or mathematics performance, compared with students with disabilities who do not receive tutoring support. This suggests that tutors are helping students with disabilities keep up with peers who do not receive (and presumably do not need) tutoring. Similarly, receiving an array of communication or presentation accommodations is not associated with academic achievement. Thus, SEELS has had mixed success in overcoming the limits of analyses of intervention effectiveness that are conducted at a single point in time. Subsequent waves of SEELS data will permit the longitudinal analysis that is more appropriate to the question of intervention effectiveness.

Curriculum modification. Like some other accommodations, modifications made to the content or presentation format of curricula represent another mechanism to individualize instructional materials for students with disabilities. These changes relate to student outcomes in the same way as other accommodations. The need for and receipt of greater modification are associated with being less engaged in special education classes and further from grade level in reading, and having lower test scores.

Instructional grouping and classroom activities. In addition to curriculum and supports, the organization and specific types of classroom activities play direct roles in students' day-to-day experiences and relate to several outcome domains. The frequent application of both whole-class and small-group instruction is associated with improved classroom engagement scores in special education and higher motivation for schooling. On the other hand, students who receive frequent individual instruction from a teacher have lower classroom engagement in general education settings and lower test scores in reading than peers who receive less individual attention. Frequent participation in activities related to literature (e.g., reading literature, writing) is associated with higher classroom engagement in both general and special education language arts classes. It also is associated with better performance in mathematics and reading in terms of performing closer to grade level and earning higher scores on WJIII. Participation in general class activities (e.g., class discussions) also is related to positive outcomes in these areas, with the exception of mathematics calculation scores. Students whose programs frequently focus on developing phonetic or vocabulary skills have improved engagement in both general and special education classes but do not differ in academic measures from students whose programs emphasize these skills less, other differences between them held constant.

School-Related Experiences

SEELS analyses demonstrate that school experiences beyond courses, programs, and services affect students' outcomes both in and out of school.

Absenteeism. Missing school can exact a high price. When poor school engagement is reflected in high absenteeism from school, that absenteeism itself contributes to teachers' perceptions of poor classroom behaviors in general education classroom settings. Students who miss a good deal of school receive poorer grades than students whose attendance is better. Higher absenteeism is not, however, associated with lower test scores.

School mobility. Moving from one school to another frequently also contributes to a cluster of school outcomes that do not bode well for students' success. Other factors held constant, students with disabilities who have changed schools often, other than for grade promotion, exhibit lower classroom engagement in general education and lower motivation for schooling than students whose school affiliations have been more stable. Although SEELS analyses show no direct independent relationship between high school mobility and indicators of academic performance, mobility is associated with a higher likelihood of being subject to disciplinary actions at school.

Grades and grade retention. SEELS analyses contribute to the debate over the value of having poorly performing students repeat grades, with findings that students with disabilities who have been held back one or more grades in their school careers are not less engaged in their school activities than other students; their absenteeism is not significantly higher, nor do teachers assess their classroom engagement behaviors differently from other students, independent of other factors in the analyses. Neither are there independent effects of being retained on students' social adjustment. However, students who have been held back because of poor academic performance in the past continue to receive lower grades and have lower locus of control scores, but are closer to grade level in reading and mathematics, other factors held constant. The effects of lower grades are felt in other domains as well. Controlling for other factors, students who receive lower grades have lower classroom engagement scores across settings and also are subject to more frequent disciplinary actions.

Clusters of Factors that Make a Difference

This summary of the results of multivariate analyses of outcomes of students with disabilities has identified the independent effects of many aspects of the students, their households, and their school programs and experiences, holding constant other factors. However, in real life, many of the factors discussed here are not independent; they cluster together for many students, resulting in additive effects that distinguish students to a greater extent than is revealed by looking at factors independently. For example, we know that a student with emotional disturbance is more likely than students in many other categories to be male, African-American, and from a lower income household. This student also is likely to spend much of the school day in general education classes and receive a

variety of social adjustment supports. In contrast, a student with visual impairment is more likely to be female, white, and affluent. Like the student with emotional disturbance, this student with visual impairment also spends a high percentage of the school day in general education classes; both receive accommodations and supports appropriate to their disability.

These combinations of differences between these two hypothetical students add up to a dramatically different picture across outcome domains. Compared with other students with disabilities, both of these students would be doing comparatively well academically. They would both be less than a year behind grade level in reading and in mathematics. The girl with visual impairment, however, would have higher tests scores by 10 and 4 standard score points in reading and mathematics, respectively. In the social adjustment domain, the pattern of results would differ dramatically. For example, the probability of the boy with an emotional disturbance being subject to disciplinary actions at school would be 53 percentage points greater than for the girl with a visual impairment. The boy with the emotional disturbance would be 14 percentage points more likely to see friends regularly but 7 percentage points less likely to belong to a group. These differences reinforce the importance of considering the entirety of students' characteristics, background, and experiences in considering the relationships, instructions, services, and supports that will best help them succeed.

Opportunities and Challenges

This report provides the most thorough examination to date of the achievements of students with disabilities during their elementary and middle school years across the outcome domains of school engagement, academic performance, social adjustment, and independence. It shows diversity both within and across those domains. In some areas, such as social development and engagement in school, many students with disabilities are making progress. In others, such as academics, there is room and need for improvement. Much work remains to be done. However, the analyses of school experience factors associated with more positive outcomes highlight the myriad ways in which those factors can combine to help shape the achievements of students with disabilities and underscore the importance of maintaining individualized school programs and services as the central tenet in the education of all students.