

7. YOUTH WITH DISABILITIES, HOW ARE THEY DOING?

By Mary Wagner

More than a decade ago, the original National Longitudinal Transition Study (NLTS) provided data to permit a national look at the secondary school and early transition experiences of youth with disabilities for the first time and to ask the question “How are they doing?” (Wagner et al., 1991). Analyses across multiple outcome domains revealed a “mixed bag of transition experiences,” which led the study team to wonder “whether the transition outcomes of youth with disabilities are represented by a glass that is half empty or half full” (Wagner, 1991d, p. 11-1). This current report also addresses the question of how youth with disabilities are doing in their secondary school years, and also finds a diversity of experiences, as well as some important differences from findings in 1991.

This chapter summarizes how youth with disabilities are doing in the early 21st century. Important differences in the outcomes for youth who differ in their primary disability classification also are noted. A look across outcome domains then identifies aspects of individual youth, their households, and their school programs and experiences that relate to the outcomes they achieve. Finally, opportunities to support positive outcomes for youth with disabilities in their secondary school years are highlighted.

Youth Outcomes—A Glass Half Empty or Half Full?

The question of whether the “glass” of outcomes for secondary-school-age youth with disabilities is half empty or half full is almost as difficult to answer now as in 1991. Both indications of real achievement and causes for concern are apparent across the outcome domains of school engagement, academic performance, social adjustment, and independence.

A look at the lives of youth with disabilities at school reveals that most of them like school, according to parents, and many youth are doing well there, as measured by grades. Almost one-third are reported to receive mostly As and Bs, and about 70% receive at least Cs or above. At the same time, test scores for youth with disabilities show them to be an average of more than 3 years behind grade level in both their reading and mathematics abilities. Youth with disabilities who are in general education academic classes tend to be less far behind than their peers in special education classes, and virtually all of them are expected to keep up with the rest of the class. However, almost one-fourth fail to do so, according to teachers. On the other hand, more than three-fourths do keep up with their general education peers. Nonetheless, their skill deficits do not bode well for them in meeting state graduation standards or achieving college entrance examination scores that will enable them to pursue postsecondary education.

In the social domain, youth with disabilities as a group are considered to have fairly good social skills, 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 youth 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, about one in seven youth have neither of these forms of social engagement outside of class. At school, even though teachers report that 90% of youth with disabilities get along well with other students and three-fourths or more follow directions and

control their behavior to act appropriately in class, more than a third were subject to disciplinary actions at school in the 2001-02 school year. Thirteen percent of youth with disabilities also get in enough trouble outside of school to have been arrested.

Youth 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,” and teachers report that more than one in five advocate for their own interests “very well.” Virtually all youth with disabilities are able to take care of their personal care needs, and about half are reported by parents to be 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 youth with disabilities. More than half of them have regular paid jobs at some time in a 1-year period, and 70% or more are reported to be making at least some progress toward goals related to work, independent living, and self-advocacy.

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

In the independence domain, youth with disabilities have a 1-year employment rate that is essentially equivalent to that of youth in the general population, a positive finding in that employment during high school is powerfully related to the ability to find employment in the postschool years (Rothstein & Manser, 2000). On the other hand, youth with disabilities have lower social skills than youth in the general population, which is a cause for concern. As summarized below, better social skills are positively related to a variety of indicators across the outcome domains. The poorer social skills of youth with disabilities may help explain why they have less active friendships than the general population of youth. Although their skills deficit does not appear to relate to lower levels of organized group memberships or higher levels of arrest than those of youth in the general population, it raises the question whether the negative implications of poor social skills will accumulate as youth with disabilities age. Youth with disabilities also tend to like school less than their nondisabled peers do; although the two groups are about equally likely to be absent from school frequently, negative attitudes toward school could affect other school experiences and ultimately the dropout rate.

Another standard by which one could assess the diversity of achievements of youth with disabilities is the experiences of a similar group in the past. Although some of the outcomes reported for youth with disabilities now were not assessed in NLTS, comparisons of those outcomes that were measured for youth represented in NLTS and in NLTS2 reveal both positive and cautionary results.

In the independence domain, comparisons reveal modest, though statistically significant declines in the ability to manage self-care needs and in functional cognitive skills (Wagner, Cameto, et al., 2003). Yet these skill declines do not appear to show up elsewhere. The frequency with which youth with disabilities take on household responsibilities has not changed markedly over time, but there has been an increase in the rate at which youth with disabilities have their own money about which they can make decisions (Wagner, Cameto, et al., 2003).

Some of this increased responsibility for managing personal finances may result from a significantly higher rate of regular paid employment among youth with disabilities represented in NLTS2 than among those represented in NLTS. This clear advancement in holding regular paid jobs by youth with disabilities has closed the employment gap between these youth and youth in the general population that existed in the past.

At school, results also are mixed. Absenteeism has increased significantly over time; whereas NLTS found that youth with disabilities missed an average of 15 days of school in a year (Wagner, Newman, & Cameto, forthcoming), NLTS2 findings show an average absenteeism of 23 days. The length of the school year has increased in some states in the intervening years, resulting in a larger pool of school days to miss. Still, increased absenteeism among youth with disabilities suggests that they have greater gaps in their exposure to curriculum, with potential negative consequences for learning. Despite increased absenteeism, grades also have increased (Wagner, Newman, & Cameto, forthcoming), despite the fact that many more youth with disabilities are taking more of their courses in general education classrooms, with their typically higher grading standards relative to special education settings. However, the average gap of more than three grade levels between students' tested reading and math abilities and their actual grade levels has not declined over time.

On the social adjustment front, the rate at which youth with disabilities belong to organized groups has remained stable over time. However, the frequency with which they experience negative consequences for their behavior, in terms of disciplinary actions at school, arrests, or being fired from a job, has increased (Wagner, Cameto, et al., 2003).

From this summary of the outcomes of youth with disabilities, it is clear that their achievements can continue to be characterized as "a mixed bag," as they were more than a decade ago.

What Makes a Difference?

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

Disability and Functioning

Disability characteristics. NLTS2 analyses show that both the nature of a youth's primary disability and the functional limitations it imposes independently influence the outcomes he or she experiences. Yet different disabilities have quite different impacts across the outcome domains. For example, youth who are similar in other respects have the following kinds of differences in outcomes associated with the nature of their disability:

- Relative to youth with learning disabilities,¹ those with visual impairments experience more positive outcomes at school, in terms of lower absenteeism and higher reading and math abilities, but more negative independence outcomes, in terms of employment, apart from other differences between youth. Having a visual impairment does not have an independent impact on social involvement with groups or friends.
- Like youth with visual impairments, those with orthopedic impairments generally succeed at school, relative to those with learning disabilities, but they have less involvement with extracurricular groups and friends and less independence, in terms of assuming household responsibilities and holding a job.
- Youth with emotional disturbances also tend to do better in school than youth with learning disabilities, other factors held constant, and are equally likely to have active friendships, group memberships, and regular paid jobs. However, they are much more likely to experience negative consequences for behavior at school, in terms of disciplinary actions, and in the community, in terms of arrests.
- Youth with mental retardation have very 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 their cognitive disability shows up in their reading and mathematics skills, which are significantly farther behind grade level than those of students with learning disabilities. However, there are no significant differences in grades related to having mental retardation, independent of other differences in functioning between youth. This finding suggests that perhaps differences in grading standards between general education classes (frequented by students with learning disabilities) and special education classes (frequented by students with mental retardation) may not be adequately controlled for in these analyses.

In addition to the nature of youth's primary disabilities, NLTS2 investigated the independent relationship to outcomes of having attention deficit or attention deficit/hyperactivity disorder (ADD/ADHD). Apart from other differences between youth in their disability, functioning, or other characteristics, having ADD/ADHD as a primary or secondary disability 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 abilities; youth whose parents report that they have that disorder are no more or less behind in reading or mathematics than youth who do not. In fact, having ADD/ADHD is positively associated with some social and independence outcomes: youth with ADD/ADHD are more likely than others to belong to extracurricular groups and hold regular paid jobs.

Two other characteristics of disability also were considered in NLTS2 multivariate analyses. The number of areas in which youth experience functional limitations and the age at which their disabilities first were diagnosed were considered proxies for the breadth or severity of youth's

¹ Multivariate analyses require that for categorical variables, such as disability category, each category be compared with another specified category. Learning disability was chosen as the category against which to compare the relationships for other disabilities because it is the largest category and, therefore, most closely resembles the characteristics of students with disabilities as a whole.

disabilities and were expected to be related in similar ways with poorer outcomes. However, the two factors apparently capture different aspects of disability in that they relate differently, and not always negatively, to outcomes.

For example, dealing with the consequences of disability from an early age is related to better engagement behaviors in special education classes, better grades, and a lower likelihood of being subject to disciplinary actions. However, it also is related to a lower likelihood of seeing friends regularly and holding a paid job. Having functional limitations in more areas is associated with less absenteeism and a lower likelihood of arrest. However, it also is associated with being significantly more behind in reading, having less active friendships, and being less independent both at home and in the workforce. 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 youth's functional abilities could be expected to relate in similar ways to outcomes, with higher skills being consistently associated with better outcomes. However, also as above, NLTS2 analyses show that different kinds of skills relate differently across the outcome domains in both intensity and direction of relationship. For example:

- Higher functional cognitive skills are strongly and positively related to higher academic achievement in both reading and math, as expected. They also relate to having more active friendships and greater independence in taking on household responsibilities and holding a job. Yet youth with higher functional cognitive skills also are more likely to get into trouble, both at school and in the community, independent of other differences between youth.
- One might think that disabilities that limit youth in managing basic self-care needs would have fairly pervasive and negative effects on outcomes, but NLTS2 analyses do not support that conclusion. Although poor self-care skills are associated with higher absenteeism and less active engagement in group activities, household responsibilities, and employment, they have no relationship to reading and math abilities, independent of other differences between youth. In fact, youth with lower self-care skills tend to have better grades than youth who are more fully functioning in managing their self-care needs, even controlling for differences in the percentage of classes taken in general education settings.
- Being socially more adept would clearly be expected to relate to better social adjustment outcomes, and it does. Youth with higher social-skills ratings by parents are significantly more likely to belong to groups, see friends regularly, and avoid disciplinary actions and arrests than youth with lower social skills, other factors held constant. Youth with higher social skills also are more active in taking on household responsibilities and in holding a regular paid job. At school, however, there is a more complex set of relationships. Although youth with higher social skills have higher grades and more positive classroom engagement behaviors in all settings than other youth, they also are significantly farther behind grade level in reading than their socially less skilled peers, reinforcing the notion that grades reflect more than academic ability.
- The ability to persist with tasks to completion has beneficial effects for youth in school. Those rated as more persistent by parents also exhibit more engagement in classroom

activities in all settings, receive better grades, and are more likely to take on household responsibilities than less persistent peers, other things being equal. This self-determination skill does not relate to academic abilities in reading and math, apart from other differences between youth.

- Youth's general health, an aspect of functioning, is included in analyses of absenteeism, and it demonstrates the strongest relationship to that indicator of engagement of any factor, underscoring the fact that absenteeism from school can be both voluntary and involuntary.

Taken together, these aspects of youth's disability and functioning explain much of the variance in the outcomes assessed, although more for some outcome domains (e.g., independence) than for others (e.g., academic performance). Yet characteristics of youth 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 typically are examined in studying adolescent outcomes in the general population, such as age, gender, or race/ethnicity, are intertwined with issues of disability (Marder, Levine, & Wagner, 2003). For example, youth with speech impairments tend to be younger and youth with emotional disturbances older than those in most other disability categories. Boys are much larger proportions of youth with other health impairments or autism than of those with sensory impairments. African Americans are disproportionately represented among youth with mental retardation or emotional disturbances than other categories. For these reasons, simple bivariate descriptions of outcomes for youth 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 them that contributes to differences in outcomes observed. Multivariate analyses permit a disentangling of these factors, identifying their independent relationships with outcomes while holding constant disability and other factors in the analyses.

Age. Where in the 13- through 18-year-old² age range youth with disabilities are relates to some aspects of their outcomes, but in different ways and possibly for different reasons. The developmental nature of some outcomes is revealed in the fact that older youth are more likely than younger peers to take on household responsibilities and work outside the home, independent of other differences between them. This is a natural consequence of maturation and youth's taking on the beginnings of adult responsibilities. Analyses also reveal that older youth tend to be farther behind in their reading and math abilities, which may suggest that the skills of youth with disabilities do not develop at the same rate as those of youth in the general population, so that they fall farther behind with the passage of time.

However, another potential explanation for some of the relationship between age and academic performance is suggested by the relationship between age and disciplinary actions at school. Older youth are less likely to experience disciplinary actions than younger students with

² Youth were ages 13 to 17 when Wave 1 parent interview data were collected and 14 through 18 when school surveys were conducted.

disabilities, other things being equal. Some of the explanation for this finding may have to do with the characteristics of youth with disabilities who leave high school early. Dropout rates are highest for youth with emotional disturbances, learning disabilities, mental retardation, or other health impairments, which are the categories of youth that are most likely to experience disciplinary actions at school. As they drop out, the group of students that is left includes fewer of these trouble-prone youth in each successive year. Thus, older youth are found less likely to be in trouble. A similar phenomenon may come into play regarding older youth's having poorer academic skills. Youth with emotional disturbances or other health impairments have high dropout rates and also tend to have higher reading and math abilities. Thus, older cohorts of youth do not include these high performers.

This explanation is further supported by the fact that age is related to a lower likelihood of having disciplinary problems at school but a higher likelihood of arrest in the community. Differential dropout rates for different disability categories would again have purged from the analysis of disciplinary actions all youth who had left school, including higher proportions of trouble-prone youth with emotional disturbances or other health impairments. However, these youth are not excluded from the analysis of arrests, which does not rely on information provided by the school. Thus, older youth who remain in school and are in the analyses of disciplinary actions tend to be less trouble-prone than younger students. In contrast, analyses of arrests, which involve both dropouts and students, show older youth to be more arrest-prone.

Gender. NLTS2 analyses demonstrate the clear challenge that being male poses for youth with disabilities, apart from differences between youth other than gender. Independent of other differences, boys with disabilities have poorer classroom engagement behaviors and lower grades than girls, both factors that reflect teachers' judgments. Boys with disabilities also are farther behind grade level in reading, although less likely to be behind in math than girls. And boys are much more likely to be subject to disciplinary actions at school and to arrest in the community. They are less involved with household chores at home, which may reflect or contribute to the fact that boys also are more likely than girls with disabilities to see friends regularly outside of school or organized group activities. Finally, the employment advantage once experienced by boys with disabilities relative to girls has disappeared (Wagner, Cameto, et al., 2003); high-school-age boys with disabilities are no more likely to hold regular paid jobs than their female counterparts, independent of other differences between them.

Race/ethnicity. Not only is race/ethnicity intertwined with disability in that youth of color are differentially represented across disability categories, it also is inextricably linked with household income. For example, the likelihood of living in poverty is almost three times as high for youth with disabilities who are African American or Hispanic than for those who are white (Marder, Levine, Wagner, et al., 2003). In addition, both youth with disabilities of color and those from lower-income households experience a tangle of other characteristics 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 some youth outcomes, irrespective of disability, income, and other differences between youth. Compared with white youth with disabilities, both African-American and Hispanic youth are significantly farther behind grade level in both reading and math and are much less likely to have regular paid jobs. However, the outcome patterns of these two groups diverge in other areas. Relative to white youth with disabilities, African Americans demonstrate lower classroom engagement, receive lower grades, and are more likely

to be subject to disciplinary actions at school. In contrast, Hispanic youth with disabilities tend to get in trouble less at school and have classroom behaviors and grades that are not different from those of white youth. However, they do tend to be less likely to participate in organized group activities than white youth, independent of income and other differences between them. This different pattern of experiences of African-American and Hispanic youth with disabilities cautions against considering “minority youth” or “students of color” as a single group in assessing their outcomes.

Primary language. Independent of racial/ethnic differences among youth with disabilities, using a language other than English at home does not appear to relate to youth outcomes, with one important exception. Relative to those who primarily use English at home and irrespective of other differences between them, youth with disabilities who primarily use a language other than English at home are significantly farther behind grade level in reading—a skill that fundamentally involves language comprehension—than their peers. Continued or increasing lags in reading could be expected to manifest themselves in other aspects of academic performance over time.

Household Characteristics

The household context in which youth with disabilities live can be expected to help shape their experiences across outcome domains. NLTS2 analyses include three aspects of youth’s household environments in analyses of outcomes: household income, levels of family support for education at home and at school, and parents’ expectations for the future of their adolescent children with disabilities.

Household income. Youth with disabilities are more likely than youth in the general population to live in low-income households (Marder, Levine, Wagner, et al., 2003). Further, NLTS2 analyses show a pattern of less positive outcomes for low-income youth, holding constant other factors. These findings may be a partial explanation for the difference in some outcomes between youth with disabilities and those in the general population, apart from differences related to disability. Regarding school engagement, youth with disabilities from lower-income households are more likely to be absent from school. Their academic performance also is poorer; they are farther behind grade level in reading and math and are more likely to receive poor grades. In the domain of social engagement, although they are more likely than wealthier peers to see friends regularly in informal get-togethers, youth from lower-income households are less likely to take part in organized group activities and are more subject to disciplinary actions at school and arrest in the community. Regarding emerging independence, lower-income youth are more likely than wealthier youth to be involved with household chores but do not differ from them in their likelihood of participating in the workforce. These relationships mirror some of those identified for nonwhite youth with disabilities, particularly those who are African American. Youth with disabilities who are both African American and from lower-income households experience the additive effects on outcomes noted here.

Family support for education. Families of youth 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 youth in the general population. For example, only 2% of parents of secondary 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 youth with disabilities.

Youth 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, appear to benefit from that support in several ways. They are less far behind grade level in reading than youth with less family involvement at school. They also tend to have better grades and more active involvement in organized groups (many of which are at school) and with individual friendships. In the independence domain, they are more likely than youth from less involved families to have regular paid jobs. This pattern of relationships suggests that the kinds of active involvement families demonstrate in support of children at school may also be provided to youth in pursuing extracurricular activities, getting together with friends, and holding jobs. In contrast, family support for education at home (i.e., talking regularly about school and helping with homework, providing a computer for schoolwork) is not related to many outcomes, controlling for other differences among youth. One exception is that greater support for education at home is negatively associated with grades, possibly because parents are more likely to provide homework help to students who 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. Expectations that 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, NLTS2 findings suggest that family expectations for the future also help shape the achievements of youth with disabilities, irrespective of the nature of youth's disabilities and their levels of functioning, particularly with regard to academic engagement and achievement.

Other things being equal, youth with disabilities whose parents expect that they are more likely to go on to postsecondary education after high school have more positive engagement and achievements while in high school than youth whose parents do not share that optimism for the future. Teachers report that these youth have more positive classroom engagement behaviors in all settings and give them better grades. Their academic achievement is in line with those better grades in that they are significantly closer to grade level in their tested reading and math abilities than youth who are not expected to further their educations after high school. Youth with disabilities whose parents hold high expectations for educational achievement also are more likely to avoid disciplinary actions and to affiliate with organized groups, many of which may be sponsored by or meet at school. Similarly, in the independence domain, youth with disabilities whose parents have high expectations that they will live independently without supervision in the future also are more likely to assume household responsibilities while in high school, independent of disability, functioning, or other differences among youth.

School Programs

Although individual and household factors are strongly associated with outcomes for youth with disabilities, schools can make a difference for youth, particularly in the realm in which they are the most active partners: school engagement and academic performance. Course taking; services, accommodations, and supports; and other school-related experiences of youth all figure into their engagement and performance in their high school years. In fact, NLTS2 multivariate

analyses have been most successful in explaining variation in the most direct measure of student learning examined by NLTS2: the gap between tested and actual grade levels in reading and math. In those analyses, school programs and experiences account for virtually half of the explained variation. What schools do matters for students with disabilities.

Enrollment in general education courses. Overall, students with disabilities who take more of their classes in general education settings differ in many aspects of their disabilities from students whose course taking occurs mainly in special education settings. Therefore, to identify the impacts of general education course enrollment on outcomes, differences in disability and functioning between students in different settings must be held constant. NLTS2 multivariate analyses provide those statistical controls. Controlling for differences in the 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 youth with disabilities at school. However, the directions of those relationships are decidedly mixed.

Students with disabilities who take a wider range of their courses in general education classes tend to miss fewer days of school and are closer to grade level in their reading and math abilities, irrespective of other differences between them and students who take fewer general education courses. They also are less subject to disciplinary actions than their peers whose course taking involves more special education classes. However, these positive findings must be balanced against indications that the general education classroom experience challenges the ability of many students with disabilities to succeed there, as reflected in the generally lower grades given by their teachers. Outside of class, however, students appear to accrue benefits in terms of a higher likelihood of engaging in extracurricular group activities at school or in the community and seeing friends regularly.

Class size. Youth with disabilities in larger classes tend to be closer to grade level in their reading and math abilities than students who are in smaller classes, irrespective of other differences in their school programs or disability, functioning, demographic, or household characteristics. This relationship may result from factors related to general and special education settings that are not adequately controlled in the model.

Vocational education, services, and experiences. The original NLTS found that vocational education, vocational services, and work experience all benefited students with disabilities as they transitioned out of high school into early adulthood (Wagner, et al., 1993). Although a variety of measures of vocational education, services, and experiences in high school were included in analyses of school engagement, academic performance, and independence (i.e., employment), positive relationships were not found in most cases. An exception is that taking vocational education is related to lower absenteeism among students with disabilities, other differences between them held constant. However, it is too early to conclude that vocational education, services, and activities do not benefit youth more widely. Analyses of subsequent waves of NLTS2 data are needed to determine whether the postschool benefits of high school vocational education that were identified in NLTS still hold true more than a decade later.

Other services, accommodations, and supports. Results of NLTS2 multivariate analyses illustrate the difficulty of identifying benefits that may accrue from services, accommodations, or supports while youth are receiving them. Students with disabilities are provided services (e.g., tutors or 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 or accommodations is measured at the same time as the outcomes that are the basis on which youth qualify for supports, a negative relationship between interventions and outcomes can occur. These negative relationships, in fact, are found in NLTS2 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 poorer classroom engagement behaviors and being farther behind grade level in both reading and math. And receiving some kinds of social adjustment supports is related to a higher likelihood of being subject to disciplinary actions at school and/or arrest in the community.

However, not all services, accommodations, or supports are found to relate negatively to outcomes. Receiving help from a tutor is unrelated to grades or tested reading or math abilities, compared with students with disabilities who do not receive tutoring support. This finding 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, NLTS2 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 NLTS2 data will permit the longitudinal analysis that is more appropriate to the question of intervention effectiveness.

School-Related Experiences

NLTS2 analyses demonstrate that school experiences beyond courses, programs, and services are associated with students' outcomes both in and out of school.

Absenteeism. Missing school exacts 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 all classroom settings. Students who miss a good deal of school also are farther behind in math and receive poorer grades than students whose attendance is better. High absenteeism and the associated poor grades and disciplinary actions all can contribute independently in powerful ways to dropping out of school by youth with disabilities (Wagner, 1991b).

School mobility. Frequent moving between schools is another contributor to a cluster of school outcomes that do not bode well for students' finishing high school. Other factors held constant, youth with disabilities who have changed schools often, other than for natural grade progression, exhibit higher absenteeism than students whose school affiliations have been more stable. Although NLTS2 analyses show no direct independent relationship between high school mobility and indicators of academic performance, mobility is associated with a lower likelihood of group membership and a higher likelihood of both disciplinary actions and criminal justice system involvement. Youth who have changed schools more frequently also are more likely to have a job in the community, consistent with a lower affiliation at school.

Declassification from special education. Analyses of the relationships between the declassification of students with disabilities from special education services and their academic performance indicate that only students' grades are significantly associated with that experience. This finding suggests that the factors that might be associated with the decision to declassify a

student—e.g., the nature of his or her disability, considerations of functioning, participation in general education classes—have been adequately controlled for in the multivariate analyses so that the declassification decision does not “proxy” for these kinds of differences between youth. Thus, there is little explanatory power left to be associated with declassification itself, so no significant relationship results.

Grades and grade retention. NLTS2 analyses contribute to the debate over the value of having poorly performing students repeat grades with findings that youth with disabilities who have been held back one or more grades in their school careers are less engaged in their classroom activities than other students; however, their absenteeism is not significantly higher, independent of other factors in the analyses. Controlling for other factors, students who receive lower grades also are in trouble more, both in school and with the criminal justice system. They also are less likely to experience the socializing effects of group memberships and more likely to see friends often outside of school or organized groups. As mentioned above, getting poor grades is part of a pattern of school experiences that contribute significantly to the choice by youth with disabilities to drop out of school.

Clusters of Factors That Make a Difference

This summary of multivariate analyses related to the achievements of youth with disabilities suggests the independent effects of many aspects of youth, 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 youth, resulting in additive effects that distinguish youth to a greater extent than is revealed by looking at factors independently. For example, we know that youth with emotional disturbances are more likely than youth in many other categories to be male, African American, and from lower-income households where they receive less family support for education than many other youth. They also are likely to have had their disabilities identified well into elementary school, have relatively poor social skills, spend much of their school day in general education classes, and receive a variety of social adjustment supports. In contrast, youth with visual impairments as a group comprise higher proportions of girls, students who are white, and those from higher-income households with high expectations for the future. Like students with emotional disturbances, they also spend a high percentage of their school day in general education classes, and they receive accommodations and supports appropriate to their disability.

NLTS2 findings suggest that students with these two profiles have dramatically different prognoses for the future. In the social adjustment domain, for example, the probability of being subject to disciplinary actions at school is 59 percentage points higher for a boy with an emotional disturbance than for a girl with a visual impairment. The likelihood of criminal justice system involvement is 42 percentage points higher for the boy with an emotional disturbance than for the girl with a visual impairment. Although the differences in other domains are less striking, they still are substantial. For example, given their different characteristics, the boy with an emotional disturbance is likely to miss 18 more days of school than the girl with a visual impairment, and thereby experience the poor academic outcomes that attend high absenteeism. Further, in the case of employment, there is a 12-percentage-point difference in the likelihood of these two hypothetical youth being employed in high school, favoring the boy with an emotional disturbance.

These findings reinforce the importance of considering the entirety of a youth's characteristics, background, and experiences in developing the relationships, instructional methods, services, and supports that will best help them succeed.

Supporting Positive Outcomes for Youth with Disabilities

The NLTS2 analyses described in this report suggest a variety of opportunities for parents and schools to support youth with disabilities in achieving positive outcomes during secondary school. For parents, findings reinforce the value of holding high expectations for the future education and independence of youth, as well as for being actively involved at their children's school and in supporting their extracurricular activities. The importance of youth's persisting with their educational and other activities also is underscored; persistence is a trait that can be taught, both at home and at school (Mithaug, 1991). Social skills, too, have been demonstrated to be important to success in many domains, and they can be taught as well, in school (Agran, Blanchard, Wehmeyer, & Hughes, 2002) and in the community (David & Tierney, 1997) through adulthood (Bridges to Practice, 2003).

The mixed set of relationships associated with youth with disabilities taking many of their courses in general education classrooms invites schools to redouble efforts to support youth with disabilities and their teachers in those inclusive settings. Experiencing school with nondisabled peers is associated with a pattern of both learning and social benefits; yet grades earned by students with disabilities in general education classrooms tend to be lower. Poor grades can send a message of failure to youth that could militate against the benefits of inclusion and erode the commitment to school over time. If low enough, poor grades also mean students do not earn credits toward graduation for the courses they take, a powerful contributor to dropping out. Supporting students with disabilities in meeting the performance expectations embodied in general education grading standards remains a challenge to schools that are committed to giving students with disabilities full access to the general education curriculum.

NLTS2 analyses described in this report also have addressed the question of whether specific interventions, such as tutoring or social adjustment supports, are associated with more positive outcomes for students who receive them. Results of these analyses do not yield an unequivocal answer to that question or point clearly toward practices that are likely to improve results. As noted above, students often receive interventions or services because they have demonstrated performance problems in one or more domains. Thus, when services and performance are assessed simultaneously, as they are in analyses of the first wave of NLTS2 data, services can be associated with poorer outcomes relative to youth who did not receive services, presumably because they were not needed. The disappointment that may result because NLTS2 does not provide clearer guidance on "what works" in improving youth outcomes is expected to dissipate when multiple waves of information from NLTS2 permit a look at the impacts of interventions and services at one point in time on outcomes that occur later.

This report provides the most thorough examination to date of the achievements of youth with disabilities during their secondary school years across the multiple outcome domains of school engagement, academic performance, social adjustment, and independence. Analyses of factors associated with more positive outcomes highlight the myriad ways those factors can

combine to help shape the achievements of youth with disabilities and underscore the importance of maintaining individualization of school programs and services as the central tenet in the education of all students.