1. ASSESSING THE ACHIEVEMENTS OF YOUTH WITH DISABILITIES DURING SECONDARY SCHOOL

By Mary Wagner

Recent reforms in the American education system, codified in the *No Child Left Behind Act of 2001* (NCLB, P. L. 107-110), emphasize the accountability of schools, school districts, and states for the academic performance of all students. NCLB requires states to implement statewide accountability systems that are based on challenging academic standards in core areas, to test annually all students in grades 3 through 8, and to publish statewide progress objectives annually to ensure that all groups of students reach academic proficiency within 12 years of schooling.

This emphasis on improved academic performance is consistent with the intention of federal legislation that guides the provision of special education services for children and youth with disabilities—the Individuals with Disabilities Education Act Amendments of 1997 (IDEA '97). The act states that: "Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities" [Sec. 601(c)(1)]. Yet academic performance is not the ultimate outcome by which the education of youth with disabilities is to be assessed. The intention of the free appropriate public education guaranteed by IDEA to children and youth with disabilities is to "prepare them for employment and independent living" [Sec. 601(d)(1)(A)].

This purpose suggests the multidimensional nature of the achievements or outcomes desired for children and youth with disabilities. Yet specifying desired outcomes is only a first step toward an effective accountability system; only when data are available on how youth with disabilities fare across multiple outcome domains can America's education system actually be accountable for the academic performance and postschool preparation of its students.

The Office of Special Education Programs (OSEP) of the U.S. Department of Education has commissioned a 10-year study that is generating the information needed to assess the achievements of youth with disabilities in their secondary school years in multiple domains. The National Longitudinal Transition Study-2 (NLTS2) is documenting the characteristics, experiences, and outcomes of a nationally representative sample of more than 11,000 youth who were ages 13 through 16 and were receiving special education services in grade 7 or above on December 1, 2000. (Demographic characteristics of youth with disabilities represented in NLTS2 and their households are described in Appendix C.) The NLTS2 findings generalize to youth with disabilities nationally, and to youth in each of the 12 federal special education disability categories in use for students in the NLTS2 age range.[1] (Details of the NLTS2 design, sample, and analysis procedures are found in Appendix A.)

This rich source of information will support a series of reports that will emerge over the life of NLTS2. This report considers the following questions for secondary-school-age youth with disabilities:

[1] Additional information about NLTS2 is available at www.nlts2.org.

- What are the achievements of youth with disabilities in key outcome domains?
- How do achievements vary for youth with different kinds of disabilities?
- What individual, household, and school factors are related to more positive outcomes for youth with disabilities?

Youth Outcomes

NLTS2 is able to address these questions with measures of outcomes that span multiple domains, including:

- **School engagement**—attending school and being actively engaged in learning activities there.
- **Academic performance**—mastering academic skills.
- **Social adjustment**—exhibiting social skills, being socially integrated, and avoiding negative behavior.
- **Independence**—demonstrating skills that support independence and assuming responsibilities at home and in the community.

Several sources of information have been used to measure outcomes in these domains and factors related to them:

- **Parents.** In telephone interviews conducted in 2001, parents reported on such topics as the activities of youth outside of school (e.g., getting together with friends, employment, criminal justice system involvement), youth's functioning (e.g., social skills, self-care skills), and household characteristics (e.g., income). Students were ages 13 through 17 at the time.
- **School staff best able to describe students' overall school programs and performance.** For each NLTS2 study member, school staff were asked to identify the person most knowledgeable about the overall school program of specific individual students; these persons often were special educators. A multipurpose survey was then conducted with those school staff in the 2001-02 school year, when students were ages 14 through 18.[2] One purpose was to obtain a snapshot of each student's school program in terms of the range of courses taken at the time and the setting for each of those courses. Information also was obtained on related services and supports and programs provided students, their transition planning experiences, and some aspects of their school performance (e.g., absenteeism, disciplinary actions, overall grades). In addition to this broad view of students' school programs, the survey collected information about instructional practices in both special education and vocational education classes.[3] Respondents were asked to report on the characteristics of specific classes (e.g., size, performance level) and instructional practices used with specific individual students in the class (e.g., curriculum used, frequency of using various instructional groupings and materials, grading criteria employed). For vocational education courses taken in general education classrooms, respondents were asked to report the extent to which the kinds of

[2] This survey is referred to as the student's school program survey.

[3] Respondents to the survey were instructed to collaborate with teachers of these classes, if needed, to provide information on instructional practices and other classroom experiences.

classroom practices used for students with disabilities differed from those used with the class as a whole.

- **Teachers of general education academic classes.** For NLTS2 study members who were reported by school staff to be enrolled in at least one general education academic class, teachers of the first such class in each student's school week were surveyed in the 2001-02 school year.[4] The first academic class in the week was selected so that information would be provided on a wide range of objectively selected classes taken by students with disabilities. As with special and vocational education courses addressed in the student's school program survey, general education academic teachers were asked to report background information on the class selected, the instructional practices used with specific individual students in the class, and how they work with the class as a whole. Teachers also reported on the supports they receive because the specific individual students are in their classes and on their perceptions of the appropriateness of those students' placements in their classes and students' performance in them.
- **School staff able to describe students' schools.** For each school attended by an NLTS2 study member, a school staff person who could report on the characteristics and policies of those schools (often the principal) was surveyed by mail to provide a school-level context for the classroom-level information collected in other surveys. Broad information about the school (e.g., grade levels served, whether public or private) as well as information about the student body (e.g., size, demographic characteristics, number of students receiving special education services, absenteeism and mobility rates) was collected. School policies that affect students with disabilities (e.g., inclusion of students with disabilities in content standards and mandated standardized testing, social promotion policies) also were addressed. For schools that serve 12th-grade students, information on rates of graduation, college entrance examination participation, and college enrollment was obtained. School-level information is linked to information for each NLTS2 study member enrolled at a given school.
- **School districts.** The primary disability classification and race/ethnicity of students were obtained from the school district rosters from which students were sampled.

These data sources produce information to measure the following indicators of outcomes within each domain.

School Engagement

NLTS2 examines both the psychological and behavioral dimensions of school engagement for students with disabilities, including:

- **Students' liking school.** Students who have positive feelings about school are more likely than other students to attend school and participate fully in their educational experience. To measure youth's feelings about school, parents were asked to indicate on a 4-point scale their level of agreement with the statement "[Youth's name] enjoys school."
- **Absenteeism.** Absenteeism from school can be problematic for both students and teachers. Students miss exposure to instructional materials and activities, and frequent or prolonged absences may jeopardize their ability to keep up with their class. Having

[4] This survey is referred to as the general education teacher survey.

students absent from school also requires that teachers repeat information and schedule makeup activities for absent students. Respondents to the school program survey reported the number of days youth were absent in February 2001. This value was multiplied by nine for the average days absent in a school year; the number of days students were absent due to suspensions or expulsions was then subtracted from this figure.

- **Engaging in classroom activities.** Although attendance is necessary for reaping the benefits of school, it is by no means sufficient. Students make the greatest gains when they work hard and consistently and when they participate actively in the learning enterprise. Teachers were asked to report how often students demonstrate they are engaged in classroom activities by doing the following: completing homework on time, taking part in group discussions, staying focused on classwork, and withdrawing from social contact or class activities. Responses were summed to create a scale that ranges from 4 (do all activities "rarely") to 16 (do all activities "almost always").

Academic Performance

- **Grades.** Parents were asked to report students' overall grades on a 9-point scale (mostly As, mostly As and Bs, mostly Bs, etc.). For youth with no parent interview, teachers were asked to report students' grades in their classes on the same 9-point scale.[5]
- **Discrepancy between actual grade level and tested grade level in reading and mathematics.** Over time, students who do not learn effectively fall increasingly behind in their academic skills. To assess the extent to which youth with disabilities are keeping up with the academic performance expectations for their grade level, school staff were asked to report the most recent year in which the reading and mathematics abilities of students were tested and the grade-level equivalent of their abilities revealed by the tests. The tested grade level in the test year was then subtracted from each student's actual grade level in that year. A negative number indicates that students' abilities lag behind their actual grade level, and a positive number indicates that their abilities are more advanced than those typical for their grade level.
- **Teachers' perceptions of performance.** In addition to the "hard" measures of grades and grade-level discrepancies, a more qualitative assessment of students' academic performance is provided by teachers' reports on two dimensions. School staff were asked to report on a 4-point scale the frequency with which each student with disabilities "works up to the best of his or her ability." In addition, teachers of general education academic classes also were asked whether the students with disabilities in those classes were able to "keep up with the other students in the class."

Social Adjustment

- **Social skills.** Youth with disabilities differ markedly in their ability to relate to others (Cameto, Marder, Cadwallader, & Wagner, 2003), an ability that is facilitated by a variety of social skills that range from starting conversations readily and being comfortable in social situations to controlling one's temper. The social skills of youth with disabilities were assessed by asking parents questions about the frequency with

[5] Analyses of factors related to students' grades include only students who receive these kinds of regular letter grades.

which youth exhibited nine aspects of social interactions, which were drawn from the Social Skills Rating System, Parent Form (Gresham & Elliott, 1990).[6] A summative scale for the items ranges from 9 ("never" exhibits any of the skills) to 27 (exhibits all of the skills "always").

- **Classroom social behaviors.** To elicit information about youth's classroom behavior from the schools' point of view, NLTS2 asked teachers or school staff how well youth "get along with other students," "follow directions," and "control behavior to act appropriately in class." Responses were summed to create a scale with values from 4 (all behaviors done "not at all well") to 16 (all behaviors done "very well"). For each student, measures refer either to a general education academic class or a special education class, depending on the setting in which the student takes the most classes.
- **Getting along with teachers and students at school.** Parents were asked to report how well they thought youth get along with both teachers and other students at school; responses on a 4-point scale range from "very well" to "not at all well."
- **Problem behaviors at school.** One problem behavior investigated in this outcome domain involves bullying other students. Parents of youth with disabilities were asked whether their son or daughter had bullied or picked on other youth at school during the current school year. In addition, school staff were asked whether during the current school year youth with disabilities had been suspended, expelled, or involved in any other type of disciplinary action, such as a referral to the office or detention.
- **Progress toward social adjustment goals.** Another benchmark against which to assess students' achievements are the goals each student has as part of his or her transition plan. School staff were asked whether students with disabilities had each of several transition goals, two of which relate to social adjustment: "behavior management goals" and "social/interpersonal goals." Those who responded that a student had such a goal were asked to report whether the student is making "a lot of progress," "some progress," "a little progress," or "no progress."
- **Social integration.** Parents reported on youth's involvement with peers in organized extracurricular activities, as well as informal friendships. They indicated whether youth participated in any school activity outside of class, such as a sports team, band, or a school club, or in any out-of-school group activity, such as scouting, a church or temple youth group, or a nonschool sports team. Parents also were asked how many days a week their adolescent children with disabilities usually got together with friends outside of school and organized activities or groups.
- **Arrests**. Some youth with disabilities exhibit behaviors that so violate community norms that they become involved with the criminal justice system. To assess such behaviors, parents of youth with disabilities were asked whether their son or daughter had ever been arrested.

[6] Please see Chapter 5 for the specific social skills included in this scale.

Independence

Skills That Support Independence

- **Managing self-care activities.** Although most youth who receive special education services have mastered the skills involved in such basic self-care functions as toileting and feeding themselves, these functions continue to challenge some youth. Parents' reports of the ability of youth to perform these functions constitute a self-care skills scale that ranges from 2 (performs the two tasks "not at all well") to 8 (performs both tasks "very well").
- **Functional cognitive skills.** Performing such functional skills as telling time, reading signs, counting change, and using the telephone presents challenges to many youth with disabilities, including those with cognitive impairments and some kinds of learning disabilities. Parents' reports on the ability of youth to perform these functions constitute a functional cognitive skills scale that ranges from 4 (performs all of the tasks "not at all well") to 16 (performs all tasks "very well"). These skills are referred to here as "functional cognitive skills" because they require the cognitive ability to read, count, and calculate. However, they also require sensory and motor skills (e.g., the ability to see signs, manipulate a telephone). Consequently, a high score indicates high functioning in all of these areas, but a low score can result from a deficit in the cognitive, sensory, and/or motor domains.
- **Mobility.** Getting around outside the home is an important marker of independence. The ability of youth to navigate the nearby environment outside their homes was assessed by using parents' ratings of how well youth were able to "get to places outside the home, like to school, to a nearby store or park, or to a neighbor's house." Because getting around independently can be especially problematic for youth with visual impairments, information on mobility skills was collected for all youth identified as having a visual impairment. School staff were asked to report how well youth with visual impairments are able to perform 10 mobility activities (e.g., travel indoors using rotely learned routes, execute a route given a verbal set of directions). A composite mobility performance score ranging from 10 to 30 was calculated by summing these responses.
- **Self-determination.** The road to independence for adolescents also includes the development of self-determination skills, such as persisting with tasks to completion or knowing how and when to advocate for oneself. To assess persistence, parents were asked how often youth "keep working at something until he/she is finished, even if it takes a long time." Self-advocacy was assessed by using ratings by school staff of how well a student can "ask for what s/he needs in order to do his or her best in class." Responses range from "very well" to "not at all well."

Transition Planning and Progress toward Goals

- **Participation of youth in transition planning.** Another potential indicator of emerging independence for youth with disabilities is their level of participation in planning their own transition from school to adulthood through the individualized education program (IEP) or individual transition plan (ITP) processes. Teaching students the skills to participate actively in the IEP process and providing opportunities to practice those skills facilitates stronger self-determination and lays the groundwork for continued self-

advocacy after leaving school, as youth negotiate their shifting role from student to adult (Stodden & Jones, 2002). School staff were asked to report the level of participation of students in transition planning, ranging from "This student has not attended planning meetings or participated in the transition planning process" to "This student has taken a leadership role in the transition planning process, helping set the direction of discussions, goals, and programs or service needs identified."

- **Progress toward goals of independent living, employment, and self-advocacy.** School staff were asked whether students with disabilities had each of three transition goals that relate to future independence: "independent living goals (e.g., personal management, getting a driver's license)," "vocationally oriented goals," and "self-advocacy goals." Those who responded that a student had such goals were asked to report whether the student is making "a lot of progress," "some progress," "a little progress," or "no progress."

Assuming Responsibilities of Daily Living

- **Assuming personal responsibilities in the household.** As youth mature, they often are expected to become more responsible for their own support within the household, such as fixing their own breakfasts or lunches, straightening up their rooms or living areas, and doing their own laundry. In addition, most youth begin to function more independently outside the home (e.g., by shopping for personal items). Parents were asked how often youth fix their own breakfasts or lunches, straighten up their living spaces, do laundry, and buy a few things at a store when they are needed. Responses were summed to create a scale that ranges from 4 (does all activities "never") to 16 (does all activities "always").
- **Managing personal finances.** As they age, youth become increasingly able to and accountable for earning, spending, and saving money. To assess the extent to which youth with disabilities are acquiring these financial management responsibilities, parents were asked whether their adolescent children "get an allowance or have other money that he/she can decide how to spend." They also were asked whether youth have savings accounts, checking accounts, or charge accounts or credit cards in their own names.

Emerging Independence in the Community

- **Driving privileges.** This aspect of independence for youth with disabilities was assessed by asking parents of youth who were at least 15 years old whether their adolescent children with disabilities have a driver's license or learner's permit.
- **Regular paid employment.** Regular paid employment during high school has been found to be an important foundation for finding employment in the postschool years (Rothstein & Manser, 2000; Wehman, Kregel, & Barcus, 1985). Parents were asked to report whether in the preceding year youth had done "any work for pay, other than work around the house (or a school-sponsored job)."

Analysis Methods

A two-pronged analysis approach has been used to address the research questions related to youth outcomes. The first step is to present descriptive findings for the indicators within each outcome domain for youth with disabilities as a whole. When possible, outcomes also are

compared with those for the general population of youth. The relationships among the indicators within an outcome domain then are considered to provide a deeper understanding of the multiple dimensions of outcomes within each domain. The descriptive analysis concludes by examining outcomes for youth who differ in their primary disability classification.

Analyses then address factors that are related to differences in selected outcomes. Multivariate analysis techniques (i.e., linear and logistic regression) are used to identify the independent relationships of various factors to outcomes. Such analyses estimate the magnitude and direction of relationships for numerous explanatory factors, statistically holding constant the other factors in the analysis.[7] The factors included in these multivariate analyses are drawn from the NLTS2 conceptual framework and are described in Chapter 2. Youth, household, and school factors are included in the analyses simultaneously, to identify the independent effects of each, controlling for all others.

Where relevant and appropriate, findings from NLTS2 are compared with those of the original National Longitudinal Transition Study (NLTS), conducted for OSEP from 1984 through 1993.

Readers should remember the following issues when interpreting the findings in this report:

- **Weighting of descriptive results.** All descriptive statistics presented in this report are weighted estimates of the national population of students receiving special education in the NLTS2 age group, as well as each disability category individually.
- **Standard errors.** For each mean and percentage in this report, a standard error is presented (usually in parentheses) that indicates the precision of the estimate. For example, a variable with a weighted estimated value of 50% and a standard error of 2 means that the value for the total population, if it had been measured, would, with 95% confidence, lie between 48% and 52% (i.e., plus or minus 2 percentage points of 50%). Thus, smaller standard errors allow for greater confidence to be placed in the estimate, whereas larger ones require caution.
- **Small samples.** Although NLTS2 data are weighted to represent the population, the size of standard errors is influenced heavily by the actual number of youth in a given group (e.g., a disability category; Appendix D reports group sizes). Groups with very small samples have comparatively large standard errors. For example, because there are relatively few youth with deaf-blindness, estimates for that group have relatively large standard errors. Therefore, readers should be cautious in interpreting results for this group and others with small sample sizes.

[7] Multivariate analyses identify relationships between a variety of factors and student outcomes, but findings do not imply that the factors cause the outcomes. For example, taking more courses in general education classes is positively associated with some measures of academic performance and social adjustment, independent of other differences between youth. However, this does not imply that general education settings cause better academic performance or social adjustment; rather, students may be in such settings in part because their academic abilities and behavior are appropriate for a general education classroom.

- **Significant differences.** In discussions of the descriptive statistics, only differences among groups that reach a level of statistical significance of $p<.05$ are mentioned in the text, with significance levels generally noted. Appendix A outlines a method for using standard errors to calculate the significance of differences among groups of interest. Multivariate analysis results indicate statistically significant results with the use of asterisks.

Organization of the Report

Chapter 2 presents the NLTS2 conceptual framework and the factors that it suggests may relate to the achievements of youth with disabilities. Chapters 3 through 6 present the results of the descriptive and multivariate analyses for the four outcome domains identified above. Chapter 7, the final chapter, identifies key lessons learned about the achievements of youth with disabilities and the individual, household, and school factors that are associated with more positive outcomes in their secondary school years. Appendix A provides details of the NLTS2 design, sample, measures, and analysis approaches, including definitions of the disability categories. Appendix B reports analyses of relationships between school-level factors and youth achievements, which were conducted independently of the multivariate analyses reported in Chapters 3 through 6. Appendix C provides descriptive information on the demographic characteristics of youth with disabilities and their households, as background for understanding the variations in their experiences and outcomes reported in this document. Appendix D provides unweighted group sizes for the analyses reported in the descriptive data tables.

The following chapters provide the most recent national picture of the multiple dimensions of the achievements of youth with disabilities in their secondary school years and of factors that are associated with those achievements. These findings will be augmented in the next few years of NLTS2 as youth transition to early adulthood and as NLTS2 reports focus on their experiences with postsecondary education, employment, and independent living.