

Executive Summary

To provide a national picture of the academic achievements of American students, the National Center for Education Statistics has administered the National Assessment of Educational Progress (NAEP) periodically since 1969, but there has been no similar national picture of the academic achievement of youth with disabilities. The National Longitudinal Transition Study-2 (NLTS2), funded by the National Center for Special Education Research in the Institute of Education Sciences in the U.S. Department of Education,¹ is filling this gap with information about secondary-school-age students with disabilities. It includes a nationally representative sample of more than 11,000 youth who were ages 13 through 16 and receiving special education services in seventh grade or above in the 2000-2001 school year. NLTS2 is the first national study to include assessments of the academic and functional abilities of youth who receive special education services in secondary school.

One assessment was attempted for each NLTS2 sample member during the biannual data collection cycle in which he or she was in the 16- through 18-year-old age range. The NLTS2 direct assessment uses research editions of subtests of the Woodcock-Johnson III (Woodcock, McGrew, and Mather 2001) that test language arts skills, mathematics abilities, and content knowledge in science and social studies. NLTS2 also includes a functional rating to provide information on youth for whom the direct assessment was reported to be inappropriate. The functional rating is the *Scales of Independent Behavior-Revised* (SIB-R) (Bruininks et al. 1996), a comprehensive measure of adaptive functioning in school, home, employment, and community settings. To determine the form of assessment for which youth qualified, assessors interviewed the school staff person who was most familiar with a youth and his or her school program; information was sought from parents if youth were no longer in school, including any accommodations that a youth required. If a youth did not meet the requirements for the direct assessment, even with accommodations, he or she was eligible for the functional rating, and a rating form was completed by a teacher if a youth was in school or by a parent if he or she was not.

Youth in the direct assessment and functional rating groups do not differ with regard to age, gender, race/ethnicity, or household income. However, the two groups are significantly different in the disability categories they represent, with the category of learning disability having the majority of youth in the direct assessment group, and mental retardation being the most prominent category in the functional rating group. Youth in the functional rating group first were identified as having a disability at a significantly younger age than those of direct assessment participants, and their functional abilities are lower. The functional rating group spends a greater percentage of class time in special education settings and has a higher rate of participation in some kinds of services. In contrast, direct assessment participants spend more time in social activities with friends and in organized groups at school than those in the functional rating group.

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Results of the NLTS2 direct assessments and functional ratings, the focus of this report, are used to address the following questions:

- How well do youth with disabilities achieve in the areas of language arts, mathematics, science, and social studies?
- How does their achievement compare with the general population of same-age youth?
- What factors related to youths' disability and functioning, individual and household demographics, family support for their education, and previous school experiences are statistically associated with higher academic achievement among youth with disabilities?
- What are the results of the functional ratings of youth's abilities?

Academic Achievement

A considerable gap in achievement in reading, mathematics, science, and social studies exists between youth with disabilities and their peers in the general population.

- Direct assessment results are reported as standard scores, which, for the general population of youth, have a mean of 100 and a standard deviation of 15. In the general population, 50 percent of youth score at the mean of 100 or above and 50 percent score below. In contrast to this distribution for the general population, more than three-quarters of youth with disabilities score below the mean across subtests.
- In the general population, about 2 percent of youth have standard scores that are more than two standard deviations below the mean (i.e., below 70). Among youth with disabilities represented by those who participated in the direct assessment, from 14 percent to 27 percent score more than two standard deviations below the mean across subtests.
- Despite the prevalence of poor scores among youth with disabilities, from 12 percent to 23 percent of youth with disabilities have scores above the mean of 100 for the general population.
- Youth experience the greatest difficulty with reading comprehension; on average, they have a mean score of 79, compared with mean scores that range from 84 for mathematics calculation and social studies content knowledge to 87 for the use of synonyms and antonyms.

Factors Related to the Academic Achievement of Youth With Disabilities

NLTS2 findings reinforce the fact that the academic achievement of youth with disabilities in reading, mathematics, science, and social studies is related to a complex array of factors that characterize youth, their households, and their school experiences. Multivariate analyses demonstrate that several individual factors differentiate youth on the basis of their academic achievement.

- The achievement of youth in several disability categories varies across the academic domains assessed. For example, youth with visual impairments outscore those with learning disabilities (the largest disability category, whose scores dominate the score for youth with disabilities as a whole) on four measures, but are similar on two, independent of other differences between them. Youth with hearing impairments score significantly higher than those with learning disabilities on mathematics calculation but significantly lower on science and social studies content knowledge.
- Youth in the categories of mental retardation and multiple disabilities consistently record low performance scores across the achievement measures.
- Independent of the nature of their disabilities, having higher functional cognitive skills relates strongly and consistently to higher academic achievement. Higher scores on the majority of subtests also are recorded for youth whose disabilities were not manifested until they were older and affect fewer functional domains.

Some demographic and household characteristics also are significantly related to academic achievement, independent of disability-related factors.

- Boys with disabilities score higher than girls on both mathematics and both content knowledge subtests, with differences of 3 or 4 standard score points.
- White youth with disabilities score from 7 to 13 standard score points higher on all academic achievement measures than African American or Hispanic youth with disabilities or those with other racial/ethnic backgrounds.
- Youth with disabilities from low income households (i.e., \$25,000 in annual income or less) have lower average scores in all domains relative to youth from moderate income households, independent of racial/ethnic and other differences between them. Differences range from 3 to 5 standard score points.
- Given similar disability, functional, and demographic characteristics, youth with disabilities score from 4 to 6 standard score points higher with each successively higher level of parental expectations regarding their future enrollment in postsecondary school.

Few school experiences of youth with disabilities show statistically significant relationships with youth's academic achievement; students' grades and school mobility and having ever been retained at grade level are not significantly related to academic achievement, independent of other factors considered in the analyses. Two exceptions are:

- Higher absenteeism is associated with lower scores on both mathematics subtests.
- Having had disciplinary problems at school is associated with lower mathematics calculation scores.

In addition, using some kinds of accommodations during the assessment relates to some measures of academic performance, but not in a consistent direction.

- Controlling for other factors, using a calculator provides a 3 or 4 point advantage on the mathematics subtests.

- Using American Sign Language or a sign language interpreter and taking breaks during a session or needing multiple sessions to complete the assessment are associated with lower scores on some subtests.

Functional Ratings of Youth With Disabilities

Youth for whom a functional rating was completed were assessed on four clusters of functional skills (motor skills, social interaction and communication, personal living skills, and community living skills) and on an overall measure of independence.

- Average standard scores for youth with disabilities across the measures range from 43 to 57, compared with a mean of 100 for the general population.
- From 22 percent to 38 percent of youth with disabilities across subtests have scores more than six standard deviations below the mean.
- Across measures, from 11 percent to 15 percent of youth represented by those with a functional rating have scores above the mean for the general population.
- Significantly fewer youth score more than six standard deviations below the mean on personal living skills than on community living skills or the measure of broad independence.
- The few youth with learning disabilities, speech or other health impairments, emotional disturbances, or traumatic brain injuries who have a functional rating together scored higher on the overall measure of broad independence than youth in other disability categories, with a mean of 90.
- The next highest-ranking mean score on the broad independence measure (53) was for youth with hearing impairments; it significantly surpassed the mean scores of all other categories, which ranged from 10 to 23.
- About two-thirds or more of youth with autism, multiple disabilities, visual or orthopedic impairments, or deaf-blindness score more than six standard deviations below the mean on the measure of broad independence.
- Only one statistically significant difference across measures is apparent in the mean standard scores of youth with disabilities who differ in gender, age, household income, or racial/ethnic background, favoring boys over girls on the motor skills measure. Although there were some differences in the percentage of youth in particular standard deviation categories, no consistent patterns were apparent.

Looking Ahead

Future NLTS2 analyses will explore the links between academic performance and both school completion and early postschool outcomes. Those analyses will illuminate the associations between successful learning in school and youth's later ability to continue their education, find employment, and become independent and productive members of their communities, the ultimate goals of secondary education.