

6. A Summary of the National Picture of the Academic Achievement and Functional Performance of Youth With Disabilities

Although national information on the academic achievement of the general student population is collected regularly (National Center for Education Statistics 2005c), similar information has not been available for students with disabilities. By administering a uniform direct assessment and functional rating for a nationally representative sample of youth with disabilities, NLTS2 is helping to fill this gap in the knowledge base. This report describes assessment results and identifies selected individual and household characteristics and school experiences that are statistically related to variations in academic achievement. The major findings that have emerged from these analyses are highlighted below.

Academic Achievement

Youth with disabilities were assessed on two measures of language arts abilities, two measures of mathematics skills, and two measures of content knowledge. Results of the NLTS2 direct assessment demonstrate that by the time students who receive special education services reach secondary school, serious academic deficits are apparent for many students. Across the six measures of academic performance included in the NLTS2 direct assessment, from 13 percent to 27 percent of youth with disabilities score below 70—i.e., more than two standard deviations below the mean for the general population—six to eight times as many as youth in the general population. Average standard scores range from 79 to 87 across the measures for youth with disabilities, whereas 100 is the average for the general population.

Youth with disabilities have the greatest difficulty with understanding what they read; the mean passage comprehension standard score of 79 is significantly lower than any of the other scores. Vocabulary, as measured by the use of synonyms and antonyms, appears to pose the fewest challenges, with a mean standard score of 87, significantly higher than all other scores. Despite the low scores overall, on each measure, some youth with disabilities have scores above the mean; across the measures, from 12 percent to 23 percent score above 100.

Low academic achievement scores are pervasive across disability categories. For example, although youth with other health or visual impairments have mean standard scores within one standard deviation of the mean for the general population on all subtests, even within these groups, 13 percent and 20 percent, respectively, score more than two standard deviations below the mean on passage comprehension, for example. Among youth with the cognitive impairment denoted by mental retardation, those who were able to participate in the direct assessment have average standard scores that are all more than two standard deviations below the mean, ranging from 56 to 67 across measures.

Within a disability category, there is considerable variation in scores across the various academic areas. For example, those with hearing impairments have a significantly higher score on mathematics calculation than any other subtest, whereas those with orthopedic impairments have better vocabulary skills than any others tested. Further, in every disability category, some youth have scores that fall above the mean for the general population.

Factors Related to Academic Achievement

Multivariate analyses confirm that the academic achievement of youth with disabilities is related to an array of individual and household factors and school experiences.¹ Independent of the kinds of differences across disability categories noted above, the functional abilities of youth relate strongly to academic achievement. Youths' ability to cognitively process information in performing everyday tasks is the aspect of functioning that is most strongly and consistently related to academic achievement. Regardless of the nature of their disability, youth whose parents report that they are better able to read signs, count change, tell time on an analog clock, and look up telephone numbers demonstrate better performance of the skills that are measured in the direct assessment. In addition, those whose parents report that youth's disabilities affect their functioning broadly and that they were affected by their disabilities earlier in their lives have lower scores on many of the subtests than youth whose disabilities are reported to affect a more limited number of domains or who did not manifest a disability as early, independent of other factors included in the analyses.

Disability-related factors explain much of the variation in measures of youth's academic achievement. But apart from differences in their disabilities and functioning, differences in their racial/ethnic backgrounds and in the incomes of the households in which they live also relate significantly to differences in their academic achievement. Independent of other differences between them on factors included in the analyses, youth who are White score significantly higher on all measures than youth with disabilities who are African American, Hispanic, or members of any of the other racial/ethnic groups. Differences in performance between White youth with disabilities and those in other groups range from 7 to 13 standard score points across measures, with no particular difference in the pattern for different racial/ethnic groups.

Being from a low-income household has a relationship to academic achievement that is independent of race/ethnicity. Across subtests, youth from households with incomes of \$25,000 or less a year are estimated to score 3 to 5 standard score points lower than youth from moderate-income households (those earning \$25,001 to \$75,000 per year), irrespective of other differences between them. Youth from high-income households (those earning more than \$75,000) do not differ significantly in their average assessment scores from youth from moderate-income households. Taken together with the racial/ethnic differences described above, on average, a low-income Hispanic youth with disabilities is likely to score 15 points lower on passage comprehension than a White peer from a moderate-income household, holding other factors in the analysis constant.

Gender also has significant relationships with academic achievement on four of the six subtests, favoring boys. On both measures of mathematics abilities and both measures of content knowledge, boys outscore girls by 3 or 4 standard score points. There are no gender differences on the two measures of language arts abilities.

Variations in families' support for the education of their adolescent children with disabilities add significantly to an understanding of their patterns of academic achievement. Of particular note are the significant relationships between achievement on all measures and parents' expectations regarding the postsecondary education of their children. NLTS2 findings

¹ Readers should note that the findings summarized in this section do not imply that the factors discussed have a causal association with academic achievement.

suggest that among youth whose disability, functioning, and demographics are similar, each increasingly higher level of educational expectations is associated with 4 to 6 additional standard score points across the subtests.

Because the NLTS2 database is not yet complete, relationships that course-taking and instructional settings, for example, may have with academic achievement have yet to be explored. However, the associations between academic achievement and several other school experiences have been examined, with few significant relationships emerging. Exceptions are that higher absenteeism is associated with lower scores on both mathematics subtests, and having disciplinary problems at school is associated with lower mathematics calculation abilities. No associations have been identified between academic achievement and grades, grade retention, or school mobility.

Finally, providing youth with some kinds of accommodations during the assessment session is associated with variation in scores, but not in a consistent direction. Specifically, using a calculator is associated with an additional 3 or 4 standard score points on the two mathematics subtests, independent of differences on other factors included in the analyses. In contrast, using American Sign Language or a sign language interpreter is associated with scores that are from 5 to 9 points lower across measures. Similarly, taking breaks during the assessment session or requiring multiple sessions to complete the assessment is associated with lower scores on five of the six subtests, ranging from 4 to 6 points.

The Functional Performance 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. The mean standard scores for youth with disabilities across the measures range from 43 to 57, compared with 100 for youth in the general population. From 22 percent to 38 percent of youth with disabilities have scores that are more than six standard deviations below the mean for youth in the general population, indicating that functional skills are extremely difficult or impossible to complete for many youth with disabilities. However, across measures, from 11 percent to 15 percent of youth with disabilities score above the mean for the general population. Personal living skills are somewhat stronger than community living skills or overall independence, as indicated by mean standard scores for those subtests.

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 score of 90. Youth with hearing impairments, who have a mean score of 53, also outscored other categories, whose scores ranged from 10 (youth with orthopedic impairments) to 23 (youth with mental retardation). Only one statistically significant difference across measures is apparent in the mean standard scores of youth who differ in gender, age, household income, or racial/ethnic background; with the mean motor skills score for boys with disabilities is significantly higher than the score for girls. In addition, some differences in the percentage of youth in particular standard deviation categories are apparent, but no consistent overall patterns have emerged.

The links between academic achievement and both school completion and early postschool outcomes will be a focus of upcoming NLTS2 analyses. Those analyses will illuminate the relationships between learning in school and youth's later ability to pursue their educations, find employment, and become independent and productive members of their communities.