

Comparisons Across Time of the Outcomes of Youth With Disabilities up to 4 Years After High School

A Report of Findings From the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2)



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September 2010

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The National Longitudinal Transition Study-2 (NLTS2) has been funded by the U.S. Department of Education, Institute of Education Sciences, under contract number ED-01-CO-0003. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.

This report was prepared for the Institute of Education Sciences under Contract No. ED-01-CO-0003. The project officer is Shu Jing Yen in the National Center for Special Education Research.

September 2010

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Suggested Citation

Newman, L., Wagner, M., Cameto, R., Knokey, A.-M., and Shaver, D. (2010). *Comparisons Across Time of the Outcomes of Youth With Disabilities up to 4 Years After High School. A Report of Findings From the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2)* (NCSEER 2010-3008). Menlo Park, CA: SRI International.

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Executive Summary

In an effort to document the secondary school experiences and postsecondary outcomes of students with disabilities over the last two decades, the U.S. Department of Education (ED) sponsored two longitudinal research studies 15 years apart. The first study, the National Longitudinal Transition Study (NLTS) generated nationally representative information about secondary-school-age youth who were receiving special education services in 1985. To assess the status of youth with disabilities in the early 21st century, ED commissioned the National Longitudinal Transition Study-2 (NLTS2) to generate nationally representative information about secondary-school-age youth who were receiving special education services in 2000. NLTS2 addresses many of the same issues as NLTS, but extends its scope.

The tremendous range and scale of changes in American society and its economy that occurred in the years between NLTS and NLTS2 are reflected in many aspects of our lives. Increasing diversity in our population and family structures, innovations in communication and information technologies, and the globalization of the economy are only a few of the many trends that have had far-reaching impacts on all of us. Other changes particularly affect students, such as the growing emphasis on the use of “high stakes” tests in holding schools accountable for the academic performance of their students and the growing number of “school choice” options available to parents.

Dramatic changes in special education policy and practice also have been noted in the 25 years after the passage of Public Law 94-142, now known as the Individuals with Disabilities Education Act (IDEA), including increased access to public education, inclusion in general education classrooms, participation in standardized testing, and high school graduation rates (American Youth Policy Forum and the Center on Education Policy 2002). Other factors particularly relevant to transition-age youth with disabilities include amendments to IDEA and to vocational education and employment legislation that have shaped state-level transition policies, increased funding for vocational services for students with disabilities, removed obstacles to employment, and required states to monitor and report on the status of youth with disabilities after exiting high school (Lehman et al. 2002; National Council on Disability 2000). It is timely to consider the changes in the characteristics, experiences, and outcomes of transition-age youth with disabilities that have been contemporaneous with the demographic, social, economic, and education policy changes in our country in the years between NLTS and NLTS2.

Specifically, this report addresses the following questions:

- *What cohort differences and similarities are apparent between youth with disabilities out of high school up to 4 years who are represented in NLTS and in NLTS2 in the domains of postsecondary education, employment, engagement in either postsecondary education or employment, household circumstances (i.e., residential independence, marital status, and financial independence), and community integration (i.e., community participation and criminal justice system involvement)?* These domains mirror the purpose of IDEA: to “prepare them [children with disabilities] for future education, employment, and independent living” (20 U.S.C. 1400(d)(1)(A) (IDEA)).

- *How do cohort differences in the post-high school outcomes of youth with disabilities compare with those of youth in the general population?* Reports from NLTS and NLTS2 have compared findings for youth with disabilities with youth in the general population to the extent data permit, revealing significant differences on many factors, yet some similarities (see, for example, Newman et al 2009; Wagner et al. 1991). It is a natural extension of that research agenda to examine cohort similarities and differences over time.
- *Do youth with disabilities who differ in their primary disability, gender, race/ethnicity,¹ household income, high school completion status, or years since leaving high school have different patterns of differences and similarities when youth represented in NLTS and NLTS2 are compared?* These subgroups are examined because research findings generated from both studies have demonstrated that youth with disabilities who differ in these ways have markedly different experiences and outcomes (see, for example, Blackorby and Wagner 1996; Newman et al. 2009; Wagner et al. 1991; Wagner, Newman, Cameto, Levine, and Marder 2003).

To address these questions, this report focuses on the subset of youth represented in NLTS and NLTS2 who had been out of high school up to 4 years. NLTS was a 6-year-long study of youth with disabilities who were in grade 7 or above and ages 13 through 21 in the 1983–84 school year. NLTS2 is a 10-year-long study of the characteristics, experiences, and outcomes of a nationally representative sample of youth with disabilities who were 13 to 16 years old and receiving special education services in grade 7 or above on December 1, 2000. Findings from both studies are intended to generalize to youth with disabilities nationally and to youth in each of the federal special education disability categories in use for students in the NLTS or NLTS2 age range at the time of each study. NLTS2 was designed to collect data on sample members from multiple sources in five waves, beginning in 2001 and ending in 2009. NLTS also collected data from several sources, however, in two rather than five waves, beginning in 1985 and ending in 1990.

Multiple data sources were used in this report to describe the differences in post-high school experiences of youth with disabilities. The primary NLTS source was the Wave 2 parent/youth telephone interview and mail survey, conducted in 1990. For NLTS2, the primary source was the Wave 3 parent/youth telephone interview and mail survey, conducted in 2005. In addition, constructed variables that describe youth's experiences since leaving high school incorporated data from the NLTS Wave 1 parent interview (conducted in 1987) and the NLTS2 Wave 2 parent/youth telephone interview and mail survey (conducted in 2003) for youth who were out of high school in 1987 or 2003. School district rosters in both studies and the NLTS2 Wave 1 parent interview or mail survey also provided a small amount of data used in this report.

For both studies, information on the outcomes of out-of-high-school youth come from youth themselves in the majority of cases, usually from the youth telephone interview. These respondents were youth who were reported by parents to be able to answer questions for themselves by telephone. Youth who were reported to be able to answer questions for themselves, but not by telephone (e.g., youth with hearing impairments) were sent a mail

¹ Findings are reported for White, African American, and Hispanic youth; other racial/ethnic categories of youth are too small in most cases to report findings for them separately.

questionnaire with a subset of items from the telephone survey. For youth who were reported by parents not to be able to answer questions for themselves (e.g., youth with significant cognitive impairments), interviews were attempted with parents. In NLTS, parents who could not be reached by phone were mailed a questionnaire with a subset of items from the telephone interview; no parent mail survey was conducted in Wave 3 of NLTS2. Thus there are four sources of NLTS data for Wave 2 of NLTS and three sources for Wave 3 of NLTS2.

When similar data items were available, comparisons were made between youth with disabilities and the same-age youth in the general population. Comparison data were taken from the Current Population Survey (CPS), 1990 and 2005. The CPS is a monthly survey of 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics. The nationally representative sample included in this monthly survey was selected to represent the civilian noninstitutional population in the United States. Comparison data for this report were taken from the October 1990, and October 2005, data collections for youth who were 18 to 21 years old and out of high school. Calculations were made from public use data available at <http://www.census.gov/cps/>, using the Data Ferret Web tool.

Information reported here primarily is drawn from the second wave of parent/youth interviews conducted for NLTS in 1990 (referred to as cohort 1) and the third wave of parent/youth interviews conducted for NLTS2 youth in 2005 (referred to as cohort 2). Analyses include the age group of out-of-high-school youth that was common to the studies at those time points: youth ages 18 through 21. Youth included in this report varied in the length of time they were out of high school, ranging from less than 1 month to 4 years post-high school. This report documents differences in post-high school outcomes for out-of-high-school youth with disabilities as a whole and for youth in the nine disability categories that were in use in both 1987 and 2001, when NLTS and NLTS2 samples were selected.² Differences also are described for youth with disabilities who varied in their school-completion status, their length of time since leaving high school, gender, their parents' household income,³ and their racial/ethnic category.

Comparisons of data from NLTS and NLTS2 document the extent and direction of differences between 1990 and 2005⁴ in the post-high school outcomes and experiences of youth

² Analytic adjustments, described in appendix A of the report, were made to account for differences between 1990 and 2005 in disability categories and their composition (i.e., combining the 1990 categories of deaf and hard of hearing into a single category to correspond to the 2005 category of hearing impairment; combining the 2005 category of autism with other health impairment, the category that included most youth with autism in 1990; and assigning youth in the 2005 traumatic brain injury category to a disability category compatible with the disability categories in effect in 1990, based on disability information provided by parents during the telephone interview.

³ Classifying the income of parents' households in NLTS and NLTS2 relied exclusively on information provided during the parent interview/surveys. Because income was reported in categories instead of specific amounts, it was not possible to adjust NLTS income for inflation to make them equivalent to 2005 dollars, the preferred approach for comparing income groups over time. As an alternative, three income categories were created, each of which encompassed similar proportions of the income distribution in the two studies.

⁴ This report examines differences in post-high school experiences of youth with disabilities between 1990 and 2005. Differences exist between NLTS and NLTS2 that have required analytic adjustments to make comparisons between the studies valid. Readers primarily interested in 2005 post-high school outcomes and experiences are referred to the report, *The Post-High School Outcomes of Youth With Disabilities up to 4 Years After High School* (Newman et al. 2009).

with disabilities in their first 4 years out of high school, in several key domains, including the following:

- Postsecondary education, including enrollment and educational experiences in 2-year or 4-year colleges or postsecondary vocational, business, or technical schools.
- Employment rates and job characteristics.
- Overall engagement in the community through participation in school, work, or preparation for work.
- Living arrangements, marital and parental status, and aspects of financial independence.
- Social involvement and community involvement in both positive and negative ways (e.g., participation in organized groups and volunteer activities, and involvement with the criminal justice system).

This executive summary presents all findings related to these key domains that are included in the full report for out-of-high school youth with disabilities as a group as well as all differences between youth who differ in their disability, high-school leaving, and demographic characteristics that are significantly different at at least the $p < .01$ level.⁵

Postsecondary Education

Over the past decades, enrollment in postsecondary education has become increasingly prevalent. For youth in the general population, “postsecondary enrollments are at an all-time high” (Ewell and Wellman 2007, p. 2). Ensuring that students with disabilities have “access to and full participation in postsecondary education” has been identified as one of the key challenges in the future of secondary education and transition for such students (National Center on Secondary Education and Transition 2003, p. 1).

- Postsecondary enrollment rates were higher in 2005 than in 1990 for youth with disabilities (within 4 years of leaving high school, 46 percent of youth with disabilities in 2005 were reported ever to have enrolled in a postsecondary school vs. 26 percent in 1990, a 19 percentage-point difference).
- Reported rates of ever having enrolled in postsecondary education were higher in 2005 than in 1990 across all types of postsecondary programs; enrollment evidenced a 19 percentage-point difference in community college (32 percent vs. 14 percent), a 13 percentage-point difference in vocational, business, or technical school (23 percent vs. 10 percent), and a 9 percentage-point difference in 4-year universities (14 percent vs. 5 percent).

Employment

Employment is a pathway to financial independence and self-reliance for youth with disabilities as they move toward adulthood. Achieving employment is a primary transition goal

⁵ See appendix page A-17 for a description of the formula used to determine statistical significance of differences between the two cohorts. The text mentions only differences that reach a level of significance of at least $p < .01$. In addition, percentages reported in the text are rounded. Discrepancies of 1 percent or less between percentages and percentage-point differences are due to rounding.

of the majority of high school students with disabilities (Cameto, Levine, and Wagner 2004). As youth with disabilities enter young adulthood, a goal of finding and keeping a job is important, but equally important is having employment that offers benefits, pays a living wage, and presents opportunities for advancement. Youth with disabilities as a whole did not vary significantly between 1990 and 2005 in their reported employment status (62 percent and 56 percent, respectively), job duration (15 months and 13 months), hours employed per week (38 hours and 35 hours), type of job, average wages (\$9.10 and \$9.00, after adjusting 1990 wages for inflation), or receipt of health insurance from their employer (52 percent and 33 percent).

- At the time of the interview employed youth with disabilities were more likely to receive paid vacation or sick leave in 1990 than 2005 (60 percent vs. 38 percent, 22 percentage-point difference).

Engagement in Postsecondary Education or Employment

Employment and postsecondary school attendance have been the primary focus of research and policies related to transition from high school to early adulthood (e.g., Benz, Doren, and Yovanoff 1998; Johnson et al. 2002; Rusch et al. 1992; Savage 2005; Sitlington, Clark, and Kolstoe 2000; Stodden 2001). This section focuses on differences in the combination and the overlap of these two types of productive engagement in the community—engagement in either employment or postsecondary education, or both between 1990 and 2005.

- Youth with disabilities were more likely to have been reported to be employed and/or attending postsecondary school at the time of the 2005 interview, as compared with the 1990 interview (86 percent vs. 65 percent, 21 percentage-point difference).
- Related to the combination of ways youth with disabilities had been engaged, rates of engaging solely in postsecondary education or in employment did not differ significantly between 1990 and 2005. In contrast, youth with disabilities were 15 percentage-points more likely to be engaged in both activities—school and work—concurrently at the time of the interview in 2005 (21 percent) as compared with 1990 (6 percent).

Household Circumstances

Markers on the path to adult life typically have included financial and residential independence and self-sufficiency, marriage, relationships, and parenting (Hogan and Astone 1986; Modell 1989; Rindfuss 1991). Rates of residential independence, parenting, and marriage did not differ significantly in 2005 compared with 1990 for youth with disabilities as a group.

- Experiences related to financial independence differed significantly. Youth with disabilities who had been out of high school from 1 to 4 years reported higher rates of having had a savings account in 2005 than in 1990 (56 percent vs. 44 percent, a 12 percentage-point difference).
- In 2005, youth with disabilities also were more likely to have a checking account than in 1990 (47 percent vs. 25 percent, a 22 percentage-point difference).

Social and Community Involvement

Living successfully in their communities has long been considered central to youth with disabilities' quality of life (Halpern 1985). An important aspect of whether a youth is living successfully in the community is the "adequacy of his or her social and interpersonal network [which]...is possibly the most important of all" aspects of adjustment for young adults with disabilities (Halpern 1985, p. 480). The participation of youth in organized, extracurricular community groups did not differ between 1990 and 2005. In addition, the rates at which youth with disabilities were reported to have a driver's license were not different between the two cohorts for youth with disabilities overall.

- Reported rates of youth with disabilities participating in volunteer or community service activities were higher in 2005 than in 1990 by 13 percentage points (25 percent vs. 13 percent).
- Youth with disabilities as a group had a higher reported rate of voter registration in 2005 than in 1990 (53 percent vs. 67 percent, 14 percentage-point difference).
- The one negative form of community participation that can be compared between NLTS and NLTS2 is the rate at which youth with disabilities out of high school up to 4 years were reported to have been arrested at some time in their lives. This rate was 11 percentage points higher in 2005 than in 1990 (27 percent vs. 16 percent).

Cohort Comparisons of Experiences by Disability Category

In both studies, information about the nature of youths' disabilities came from rosters of all students in the age ranges included in the studies and receiving special education services in the 1985–86 or 2000–01 school years under the auspices of participating local education agencies (LEAs) and state-supported special schools. Each student was assigned to a disability category on the basis of the primary disability designated by the student's school or district. In 2001 the federal disability categories specified for students differed from those in 1986. There were categories in 2001 that were not in use in 1986, specifically the categories of autism and traumatic brain injury. The categories of deaf and hard of hearing in 1986 were included in the one disability category of hearing impairment in 2001.

Because students with autism were included in the other health impairment category in 1986, comparisons for this report required that the NLTS2 youth with autism (approximately 180 youth) be included in the other health impairment category as well. Youth in the 2001 traumatic brain injury category were assigned to a disability category compatible with the disability categories in effect in 1986, based on disability information provided by parents during the telephone interview. In addition, the two NLTS categories of deaf and hard of hearing were combined to be comparable to the single NLTS2 category of hearing impairment. In both cohorts, students with deaf-blindness were included in the multiple impairments category because there were too few to report separately.

Comparisons across time by disability category are apparent in many of the post-high school outcomes examined in this report.

- Youth in four of nine disability categories experienced significantly higher rates of ever having enrolled in postsecondary programs in 2005 than in 1990, specifically those with

hearing impairments (73 percent vs. 50 percent, 23 percentage-point difference), mental retardation (28 percent vs. 8 percent, 20 percentage-point difference), learning disabilities (48 percent vs. 30 percent, 18 percentage-point difference), and emotional disturbances (35 percent vs. 18 percent, 17 percentage-point difference).

- Youth in five of the nine disability categories experienced significantly higher engagement rates in 2005 than in 1990, specifically those with learning disabilities (91 percent vs. 72 percent, 19 percentage-point difference); hearing (88 percent vs. 58 percent, 30 percentage-point difference), visual (96 percent vs. 62 percent, 34 percentage-point difference), or other health impairments (95 percent vs. 73 percent, 22 percentage-point difference); and multiple disabilities (86 percent vs. 45 percent, 42 percentage-point difference).
- Youth in the hearing impairment (65 percent vs. 43 percent, 22 percentage-point difference), other health impairment/autism (66 percent vs. 37 percent, 29 percentage-point difference), and multiple disabilities/deaf-blindness categories (63 percent vs. 2 percent, 61 percentage-point difference) experienced significantly higher rates of having had a savings account in 2005 than in 1990.
- Youth in seven of the nine disability categories also were more likely to have a checking account in 2005 than in 1990, specifically those with learning disabilities (50 percent vs. 29 percent, 21 percentage-point difference), speech/language impairments (58 percent vs. 26 percent, 32 percentage-point difference), hearing impairments (64 percent vs. 32 percent, 32 percentage-point difference), visual impairments (72 percent vs. 35 percent, 37 percentage-point difference), or orthopedic impairments (56 percent vs. 25 percent, 31 percentage-point difference); other health impairments or autism (59 percent vs. 25 percent, 33 percentage-point difference), or multiple disabilities or deaf/blindness (34 percent vs. 1 percent, 33 percentage-point difference).
- Rates of volunteerism were significantly higher in 2005 than in 1990 for youth with speech/language (35 percent vs. 10 percent, 25 percentage-points) or visual impairments (67 percent vs. 21 percent, 46 percentage-points).
- The likelihood of youth either belonging to an extracurricular community group or volunteering was higher in 2005 than 1990 for youth with visual impairments (76 percent vs. 35 percent, 41 percentage points).
- The rates at which youth with disabilities were reported to have a driver's license was significantly higher in 2005 than 1990 for youth with multiple disabilities or deaf/blindness (36 percent vs. 2 percent, 34 percentage points).
- Significantly higher voter registration rates in 2005 were reported for youth with hearing (76 percent vs. 49 percent, 28 percentage points), visual (81 percent vs. 57 percent, 23 percentage points), or orthopedic impairments (77 percent vs. 45 percent, 32 percentage points); emotional disturbances (69 percent vs. 50 percent, 20 percentage points); or multiple disabilities or deaf-blindness (66 percent vs. 2 percent, 64 percentage points).
- Youth with emotional disturbances evidenced a 25-percentage-point higher rate in 2005 than in 1990 of being reported to have ever been arrested (61 percent vs. 36 percent).

Cohort Comparisons of Experiences by Length of Time Out of High School

Youth included in this report varied in their length of time out of high school, ranging from 1 month or less to 4 years post-high school. Most post-high school experiences did not differ significantly between 1995 and 2005 by the number of years since youth had left high school. The experiences that did differ by length of time out of high school included the following:

- Youth with disabilities who had been out of high school between 2 and 4 years were more likely to have been reported to be engaged in postsecondary education and/or employment at the time of the interview in 2005 than in 1990, a 26 percentage-point difference (90 percent vs. 64 percent).
- Youth with disabilities who had been out of high school for less than 1 year were more likely to have savings (63 percent vs. 40 percent, 23 percentage-point difference) and checking (46 percent vs. 22 percent, 24 percentage-point difference) accounts in 2005 than in 1990.
- In addition, youth with disabilities who had been out of high school from 1 to 2 years were more likely to have a checking account in 2005 than in 1990 (46 percent vs. 26 percent, 20 percentage-point difference).

Cohort Comparisons of Experiences by High School Completion Status

Post-high school outcomes of high school completers (those who graduated, received a certificate of attendance or completion, or who passed a high school exit exam or completed a GED program) were more likely to differ significantly between 1990 and 2005 than were those who left high school without finishing.

- Across the various types of postsecondary programs, high school completers consistently evidenced significantly higher rates of having ever enrolled in postsecondary school in 2005 than in 1990. The rate of ever having enrolled in a postsecondary program for high school completers was 16 percentage points higher in 2005 compared with 1990 (51 percent vs. 34 percent).
- High school completers were more likely to receive health insurance from their employer in 1990 than 2005 (62 percent vs. 39 percent, 24 percentage-point difference) and were more likely to receive vacation or sick leave benefits in 1990 than 2005 (57 percent vs. 32 percent, 25 percentage-point difference).
- High school completers evidenced significantly higher rates of engagement in 2005 than in 1990 (88 percent vs. 75 percent, 14 percentage-point difference).
- High school completers were more likely to have a checking account in 2005 than in 1990 (52 percent vs. 32 percent, 20 percentage-point difference).
- Rates of volunteerism were significantly higher in 2005 than in 1990 for high school completers (29 percent vs. 14 percent, 15 percentage points).
- The likelihood of youth with disabilities either belonging to an extracurricular community group or volunteering was higher in 2005 than 1990 for high school completers (48 percent vs. 31 percent, 17 percentage points).

- High school completers demonstrated a higher voter registration rate in 2005 than in 1990 (72 percent vs. 57 percent, 15 percentage points).
- Higher rates of ever having been arrested were reported for high school completers in 2005 than in 1990 (23 percent vs. 10 percent, 13 percentage points).

Cohort Comparisons of Experiences by Demographic Differences

Differences between 1990 and 2005 were apparent across youth demographic characteristics, such as gender, age, household income, and race/ethnicity, for some post-high school outcomes but not for others.

Cohort comparisons by gender included:

- Both males and females had significantly higher rates of enrollment across types of postsecondary school in 2005 compared with 1990. For example, males experienced a 20 percentage-point (44 percent vs. 25 percent), and females a 19 percentage-point (49 percent vs. 31 percent), difference between cohorts in enrollment in any postsecondary school.
- Females were more likely to have reported full-time employment in 1990 than 2005 (54 percent vs. 21 percent, 33 percentage-point difference).
- Males were more likely to report receipt of employer provided health insurance (57 percent vs. 33 percent, 24 percentage point difference) and vacation or sick leave (63 percent vs. 39 percent, 24 percentage-point difference) in 1990 than 2005.
- Both males and females experienced higher rates of engagement in 2005 than in 1990; males evidenced an 18 percentage-point difference (89 percent vs. 72 percent), and females a 27 percentage-point difference (79 percent vs. 52 percent).
- Rates of having a checking account were higher between 2005 and 1990 for males, a 23 percentage-point difference (48 percent vs. 25 percent).
- The likelihood of youth with disabilities either belonging to an extracurricular community group or volunteering was higher in 2005 than 1990 for males (46 percent vs. 29 percent, 17 percentage points).
- Females demonstrated a higher voter registration rate in 2005 than in 1990 (67 percent vs. 45 percent, 22 percentage points).
- Higher rates of ever having been arrested were reported for males with disabilities in 2005 than in 1990 (32 percent vs. 20 percent, 13 percentage points).

Some post-high school outcomes significantly differed between 1990 and 2005 by the economic status of the households in which youth with disabilities grew up, including:

- Youth with disabilities in the highest (72 percent vs. 45 percent, 28 percentage-point difference) as well as the lowest parent household income categories (35 percent vs. 19 percent, 16 percentage-point difference) were more likely to be enrolled in a postsecondary school in 2005 than in 1990.
- Despite the significantly higher enrollment rates experienced by youth with disabilities in the lowest income category in 2005 compared with 1990, those from the highest

income households experienced a larger difference, thereby continuing the gap in postsecondary enrollment rates between those from the highest and lowest income households (72 percent vs. 35 percent).

- Youth with disabilities from families with the highest incomes were more likely to receive health insurance benefits from their jobs in 1990 than in 2005 (53 percent vs. 20 percent, 33 percentage-point difference).
- Youth with disabilities from families in the middle income category evidenced a significant difference in their rate of engagement in school and/or work between 1990 and 2005 (22 percentage-point difference, 90 percent vs. 69 percent), lessening the gap between their rate of engagement and that of youth with disabilities from higher income households.
- Youth with disabilities in the lowest and middle income categories were more likely to have a checking account in 2005 than in 1990 (18 percentage-point, 33 percent vs. 15 percent, and 23 percentage-point differences, 57 percent vs. 34 percent, respectively).
- Youth with disabilities in the highest income category were more likely to have a credit card in 2005 than in 1990 (55 percent vs. 30 percent, 25 percentage-point difference).
- The likelihood of youth either belonging to an extracurricular community group or volunteering was higher in 2005 than 1990 for youth with disabilities from families in the highest income group (65 percent vs. 29 percent, 36 percentage points).

Several post-high school outcomes that differed between 1990 and 2005 by race/ethnicity also were apparent:

- White youth with disabilities experienced significantly higher enrollment rates in 2005 compared with 1990 across the various types of postsecondary programs: 20 percentage points in any postsecondary program (47 percent vs. 27 percent), 19 percentage points in 2-year colleges (33 percent vs. 15 percent), 11 percentage points in 4-year colleges (16 percent vs. 5 percent), and 11 percentage points in vocational, business, or technical schools (21 percent vs. 10 percent).
- African American youth with disabilities experienced higher enrollment rates in 2005 compared with 1990 in 2-year colleges: 22 percentage points (35 percent vs. 13 percent).
- White youth were more likely to receive health insurance benefits from their jobs in 1990 than in 2005 (52 percent vs. 28 percent, 24 percentage-point difference).
- White youth with disabilities were more likely to be engaged in postsecondary education and employment in 2005 than in 1990 (90 percent vs. 73 percent, 17 percentage-point difference).
- Rates of having a checking account were higher between 2005 and 1990 for youth with disabilities who were White (56 percent vs. 32 percent, 24 percentage-point difference).
- White youth with disabilities demonstrated a higher voter registration rate in 2005 than in 1990 (67 percent vs. 52 percent, 15 percentage points).

Comparisons With the General Population

When similar data items were available, comparisons were made between 1990 and 2005 for same-age youth in the general population. Comparison data were taken from the Current Population Survey (CPS), 1990 and 2005.

- Youth with disabilities experienced a significantly larger difference in postsecondary school enrollment rates between 1990 and 2005 than did those in the general population (19 percentage points vs. 9 percentage points). Despite the larger increase for youth with disabilities, in 2005 they remained less likely than those in the general population ever to have been enrolled in postsecondary education (46 percent vs. 63 percent).
- The reported employment rates of out-of-high school youth with disabilities did not significantly differ between 1990 and 2005 (62 percent and 56 percent, respectively). The employment rates of same-age out-of-high school youth in the general population in 1990 and 2005 was 60 percent and 59 percent employed at the time of interview, respectively, also not a significant difference.

Cautions in Interpreting Findings

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

- The purpose of this report is descriptive; as nonexperimental studies, NLTS and NLTS2 do not provide data that can be used to address causal questions. The descriptions provided in this document concern the post-high school experiences of youth. No attempt is made to “validate” respondents’ reports with information on their understanding of the survey items or with third-party information on their experiences (e.g., from employers or postsecondary education institutions).
- The analyses are descriptive; none of the findings should be interpreted as implying causal relationships.
- Information about the nature of students’ disabilities came from rosters of all students in the NLTS and NLTS2 age ranges receiving special education services in the 1983-84 or 2000–01 school year (respectively) under the auspices of participating LEAs and state-supported special schools. In analyses in this report, each student is assigned to a disability category on the basis of the primary disability designated by the student’s school or district. Although there are federal guidelines in making category assignments, criteria and methods for assigning students to categories vary from state to state and even between districts within states, with the potential for substantial variation in the nature and severity of disabilities included in the categories. Therefore, NLTS and NLTS2 data should not be interpreted as describing students who truly had a particular disability, but rather as describing students who were categorized as having that primary disability.
- Data presented are combined youth self-report and parent-report data. If an NLTS Wave 2 or NLTS2 Wave 3 youth interview/survey was completed, youth’s responses to these items were used in this report. In both studies, if a youth interview/survey could not be completed for an eligible youth or if a youth was reported by parents not to be able to participate in an interview/survey, parent responses were used. For the

subsample of out-of-high school youth included in this report, the youth interview/survey was the source of data for post-high school outcomes for 84 percent of NLTS youth and for 70 percent of NLTS2 youth, and the parent interview was the source for 16 percent of NLTS youth and 30 percent of NLTS2 youth who did not have a youth interview. Combining data across respondents raises the question of whether parent and youth responses would concur—i.e., would the same findings result if parents' responses were reported instead of youth's responses. When both parents and youth were asked whether the youth belonged to an organized community group, currently worked for pay, worked for pay in the past 2 years, and the wages currently employed youth earned per hour, their responses agreed from 70 percent to 91 percent of the time in NLTS and from 69 percent to 80 percent of the time in NLTS2.

- Differences exist between NLTS and NLTS2 that required analytic adjustments to age, disability category, and household income, for comparisons between the studies to be valid. After these adjustments had been made, differences remained between the NLTS and NLTS2 samples in two of the subgroups included in this report: the other health impairment/autism disability category and the high school completion status variable. Consistent with the increasing number of students identified with autism (Volkmar et al. 2004), the NLTS2 sample included significantly more youth in the other health impairment/autism category than the NLTS sample (6 percent vs. 1 percent, $p < .01$). In addition, as presented in previous reports comparing the experiences of youth in NLTS with those in NLTS2,⁶ youth in NLTS2 were more likely to have completed high school than those in NLTS (85 percent vs. 70 percent, $p < .001$).
- It is important to note that descriptive findings are reported for the full sample of out-of-high school youth; those findings are heavily influenced by information provided for youth with learning disabilities, who constitute 62 percent of the weighted NLTS sample and 64 percent of the weighted NLTS2 sample. Comparisons also were conducted between groups of youth who differed with respect to disability category, high school-leaving status and timing, gender, race/ethnicity, and household income. These bivariate analyses should not be interpreted as implying that a factor on which subgroups are differentiated (e.g., disability category) has a causal relationship with the differences reported. Further, readers should be aware that demographic factors (e.g., race/ethnicity and household income) are correlated among youth with disabilities and are distributed differently across disability categories. These complex interactions and relationships among subgroups relative to the variables included in this report have not been explored.
- Extensive efforts were made to ensure the comparability of the two studies and that the wording of most NLTS and NLTS2 survey items are identical. A few items have minor wording differences, which may account for different responses. Survey items are included as chapter footnotes and wording differences are described there.
- Several types of analyses were conducted for this report, including between-group means, between-group percentages, and within-subject percentages. Because of the weighted nature of NLTS2 data, equality between the mean values of the responses to a

⁶ See Wagner, Newman, and Cameto (2004).

single survey item in two disjoint subpopulations was based on a test statistic essentially equivalent to a two-sample t test for independent samples using weighted data. Sample sizes for each group being compared were never less than 30. For a two-tailed test, the test statistic was the square of the t statistic, which then followed an approximate chi-square distribution with one degree of freedom, that is, an $F(1, \text{infinity})$ distribution.

- Although discussions in the report emphasize only differences that reach a level of statistical significance of at least $p < .01$, the large number of comparisons made in this report may result in some significant differences mistakenly determined to be significant when they are not (i.e., “false positives” or type I errors). Readers also are cautioned that the meaningfulness of differences reported here cannot be derived from their statistical significance.

Looking Ahead

This report provides a comparison of the post-high school experiences of youth with disabilities in 1990 and in 2005, who had been out of high school up to 4 years. It examines how differences between the two time periods varied across disability categories and demographic groups and, when data are available, how these differences compared with those of youth in the general population. Although the Wave 2 data collected in 1990 of NLTS was the final wave of data collection for that study, NLTS2 will continue to follow the lives of youth with disabilities as they age, which will provide information to examine how post-high school outcomes might evolve over time.