

**Appendix A. Technical notes and methodology for volume 3:**  
**Comparisons over time**

Page left intentionally blank for double-sided copying

Appendix A provides information on the National Longitudinal Transition Study (NLTS) 2012, the NLTS2, and the NLTS, as well as on the analytic procedures used in this volume. The appendix draws on several other technical documents that contain information on the NLTS series, namely the NLTS 2012 design documentation (Burghardt et al., 2017) and the technical appendices for the NLTS2 and NLTS study reports (for example, Javitz & Wagner, 1990; Wagner, Cameto, & Newman, 2003; Wagner, Newman, & Cameto, 2004; Wagner et al., 2005). The appendix covers 10 topics: (1) the purpose of the NLTS series; (2) the district and youth sample design; (3) the content of the parent and youth survey instruments; (4) data collection methods, procedures, and response rates; (5) the population of interest and analytic sample used for this volume; (6) development of weights and adjustments to those weights for this volume; (7) unit nonresponse bias analysis; (8) imputation and the handling of missing data; (9) statistical procedures and variance estimation; and (10) the analytic variables used in the volume.

### A.1. Purpose of the NLTS series

The U.S. Department of Education has sponsored three studies in the NLTS series to examine youth with disabilities receiving services under the Individuals with Disabilities Education Act (IDEA), a longstanding federal law last updated in 2004. Under IDEA, youth with disabilities can be eligible to receive special education and related services through an individualized education program (IEP). All three studies have used survey and administrative data to describe the backgrounds of youth with an IEP and their functional abilities, activities in school and with friends, academic supports received from schools and parents, and preparation for life after high school. The NLTS 2012, the most recent study, focused on youth with and without an IEP who were ages 13 to 21 in 2012.<sup>1</sup> The NLTS2 focused on youth with an IEP who were ages 13 to 16 in 2001. The NLTS focused on youth with an IEP who were ages 13 to 21 in 1985. The research questions the studies were designed to address are discussed below.

- **The NLTS 2012 was designed to address three sets of questions that involve comparisons of various groups of youth, including those with and without an IEP.** The first set of questions pertains to the nature and extent of *differences between youth with an IEP and other youth*. The NLTS 2012 is the first NLTS to permit direct comparisons of youth with and without an IEP, having included representative samples of both groups. Among the youth without an IEP is a representative set of students who receive accommodations through a plan developed under Section 504 of the Rehabilitation Act, another federal law pertaining to the rights and needs of youth with disabilities, as well as a representative set of students with neither an IEP nor a Section 504 plan. The second set of questions focuses on the extent of *differences among the disability groups recognized by IDEA*, which are autism, deaf-blindness, emotional disturbance, hearing impairment,<sup>2</sup> intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment. The third set of questions concerns *differences among youth with an IEP across decades*. The NLTS 2012, when combined with the two earlier surveys, provides information on changes over three decades in the characteristics and experiences of youth in special education.

---

<sup>1</sup> In this volume, years refer to the end year of a school year. For example, 2012 refers to the 2011–2012 school year.

<sup>2</sup> Because youth with deafness and hearing impairments are small groups, they have been combined into one group.

- **The NLTS2 and the NLTS were designed to address questions that focus on comparisons among sets of youth with an IEP, but not youth without an IEP.** Both studies examined youth with an IEP as a whole and the extent of *differences among the disability groups recognized by IDEA*. The NLTS2 also addressed questions related to *differences between youth with an IEP and those in the previous decade* who were surveyed by the NLTS.

Three report volumes contain findings from the analysis of the NLTS 2012 data. Volume 1 focuses on comparisons of youth with an IEP and youth without an IEP (Lipscomb et al., 2017a). Volume 2 focuses on comparisons of youth with an IEP across disability groups (Lipscomb et al., 2017b). The present volume, Volume 3, focuses on comparisons of youth with an IEP across time.

The reports of findings from the NLTS2 and the NLTS are available at <https://nlts2.sri.com/products.html>.

## A.2. District and youth sample design

All three studies in the NLTS series used two-stage national probability samples to enable precise and nationally representative estimates of the backgrounds and experiences of groups of secondary students. The first stage consisted of selecting a sample of school districts and a supplementary sample of special schools that serve only students with disabilities (this appendix refers to both the school districts and special schools as *districts*). The second stage consisted of selecting students from the districts that agreed to participate in the study. Table A-1 shows the counts of sampled and participating districts, and of sampled youth, by disability group.

**Table A-1. District recruitment and youth sample sizes, by study**

Sample group	NLTS 2012	NLTS2	NLTS
<b>First-stage sample (districts)</b>			
Districts sampled	572	3,712	712
Districts participating	432	538	325
Participation rate (%)	76	15	46
<b>Second-stage sample (youth)</b>			
All youth	21,959	11,276	10,369
Youth with an IEP	17,476	11,276	10,369
Youth without an IEP	4,483	0	0
504 plan but no IEP	1,168	0	0
Neither 504 plan nor IEP	3,315	0	0

NLTS is National Longitudinal Transition Study; IEP is individualized education program.

*Source:* Sample sizes for the NLTS 2012 come from Burghardt et al. (2017). First-stage sample sizes for the NLTS2 and the NLTS come from exhibit A-1 of Wagner, Newman, & Cameto (2004). Second-stage sample sizes for the NLTS2 and the NLTS come from exhibit A-2 of Wagner, Cameto, & Newman (2003).

More details on the school district and youth samples reported in table A-1 are provided below for each study.

- **NLTS 2012.** The first stage comprised a sample of 572 school districts, stratified by size and Census region. Districts included local education agencies, charter schools that operate independently, and state-sponsored special schools that serve deaf and/or blind youth. A total of 432 districts participated in the study (76 percent). From lists that participating districts provided, the study selected a stratified random sample of 21,959 youth from among each of the 12 IDEA disability groups, the youth with a 504 plan but no IEP, and

the youth with neither a 504 plan nor an IEP.<sup>3</sup> The sample included 17,476 youth with an IEP, 1,168 youth with a 504 plan but no IEP, and 3,315 youth with neither a 504 plan nor an IEP.<sup>4</sup>

- **NLTS2 and NLTS.** The first stage comprised samples of 3,712 and 712 school districts for the NLTS2 and NLTS, respectively, stratified by Census region, size, and the percentage of students living in poverty. Districts included local education agencies and state-sponsored special schools. A total of 538 (15 percent) sampled NLTS2 districts and 325 (46 percent) sampled NLTS districts participated in the study. From lists that participating districts provided, the studies selected random samples of youth with an IEP (11,276 for NLTS2 and 10,369 for NLTS) from each disability group.

### A.3. Content of parent and youth survey instruments

Across the three studies in the NLTS series, the parent and youth survey instruments covered mostly similar topics about youth with an IEP enrolled in secondary school. The following list summarizes the major topics from the NLTS 2012 surveys.

*The parent survey.* The parent survey covered the following topics:

- **Disabilities and abilities**, including whether youth have a disability and, if so, what kind. It also covered whether they have had an IEP or a 504 plan, and their functional abilities.
- **School enrollment and service receipt**, including youth secondary school enrollment and graduation status, whether they were ever suspended or expelled, receipt of special education and related services, and other supports received through the school.
- **Parents' involvement in their children's education**, including whether parents attend school events, meet with teachers, help with homework, and participate in IEP and transition-planning meetings.
- **Parents' expectations for their children's futures**, including how much education they think youth will obtain, challenges in furthering education and employment, and expected living arrangements and financial independence.
- **Background characteristics and socioeconomic status**, including household size; the primary language used at home; youths' race and ethnicity; parents' income, education, and marital status; and household receipt of federal financial assistance.

*The youth survey.* The youth survey covered the following topics:

- **Perceptions about school**, including coursework, relationships with staff, and experiences with bullying.
- **Receipt of academic supports through school**, including supplementary academic instruction outside of regular school hours.

---

<sup>3</sup> The total sample of 21,959 youth was released over two years during 2012 and 2013. More detail on data collection methods, procedures, and results is provided in section A.4.

<sup>4</sup> The number of districts sampled for the NLTS 2012 balanced the need to obtain a nationally representative sample with the additional costs of recruiting a larger number of districts. Although the NLTS 2012 sampled fewer districts than the NLTS2, it had a higher district-level response and resulted in a similar number of districts that participated in the study.

- **Participation in IEP and transition-planning meetings**, including whether youth attended these meetings and their role in defining their educational goals.
- **Extracurricular and social activities**, including participation in school-sponsored sports and clubs, other organized activities outside of school, and interactions with friends.
- **Employment experiences**, including paid employment and school-sponsored work activities.
- **Expectations for the future**, including those for postsecondary education and independent living.
- **Indicators of self-determination**, including indicators of personal autonomy and self-direction.

Not all of the survey items were comparable enough across all three studies in the NLTS series to support a valid analysis of trends, even if they pertained to the same topic. For instance, some items had substantively different wording in the survey question itself or the response categories, or were asked of different types of survey respondents (that is, parents versus youth). The latter portions of this appendix provide more detail on criteria for assessing the comparability of survey items and on the measures examined in the analysis (section A.10).

#### A.4. Data collection methods, procedures, and response rates

This section describes key features of the data collection that are relevant to this volume. Data collection for the three NLTS surveys occurred during distinct parts of the year. The NLTS 2012 included only a single round of survey collection, although the NLTS2 and the NLTS included multiple waves of data collection. This section focuses on the waves of those two earlier studies that are used in the analysis: Wave 2 of NLTS2 and Wave 1 of the NLTS. Source material for this section comes from Burghardt et al. (2017) and Wagner et al. (2005). Section A.5 provides more detail on the population of interest and analytic sample for each volume.

- **NLTS 2012.** Data collection was conducted from February through October 2012 and from January through August 2013. The study revised the data collection strategies and continued data collection in 2013 to address low response rates during 2012. Survey administration in 2012 was by computer-assisted telephone interviewing. In 2013, the study introduced a web survey option and field interviewers. The study offered youth several accommodations to help them respond to the survey, including the use of any assistive technology the youth normally uses (for example, optical devices to enlarge print, hearing aids, sign language, or lip reading), the option to take the survey in English or Spanish, and the option to have a parent or other household adult translate the survey for youth who do not speak English or Spanish, or to act as a sign language interpreter. In addition, parent survey respondents received a portion of their cash incentive payment in advance. During both years, the study needed to contact parents first for youth who were younger than 18. If a parent consented to the study, the parent was surveyed first and subsequently interviewers attempted to survey the youth.
- **NLTS2.** The parent and youth surveys for Wave 2 were completed during spring, summer, and fall 2003, when youth were ages 15 to 19. Parents were interviewed first, using computer-assisted telephone interviewing. Youth were interviewed with their parent's consent by either computer-assisted telephone interviewing or a mailed self-administered questionnaire. All waves of the NLTS2 were available in either English or Spanish. For 47 percent of all youth survey responses in Wave 2,<sup>5</sup> parents acted as a proxy if they

---

<sup>5</sup> The NLTS2 study reports refer to a Parent Part 2 interview and a Youth Part 2 interview rather than a youth survey

declined to have their children asked questions related to risk behaviors, their children could not answer questions by telephone or written questionnaire, or their children did not respond (table A-2). Wave 1 of data collection occurred in 2001 and did not include a youth survey instrument. Waves 3 through 5 of data collection occurred in 2005, 2007, and 2009, respectively, to examine students' post-high school outcomes.

- **NLTS.** Wave 1 consisted of a parent survey that was completed during summer and fall 1987, when youth were ages 15 to 23, using a combination of computer-assisted telephone interviewing and mailed self-administered questionnaires. Wave 2 occurred in 1990 and included both a parent and a youth survey. Both waves of the NLTS were available in either English or Spanish. Because this volume only uses NLTS data from Wave 1, youth survey proxy respondents are not applicable and not shown in table A-2.

**Table A-2. Youth survey proxy responses for NLTS 2012 and NLTS2 Wave 2**

Disability group	NLTS 2012 youth survey proxy (%)	NLTS2 Wave 2 youth survey proxy (%)
All youth	16	47
IEP	19	47
No IEP	6	—
504 plan but no IEP	4	—
Neither 504 plan nor IEP	6	—

— = not applicable.

NLTS is National Longitudinal Transition Study; IEP is individualized education program.

Note: Youth survey proxies are reported as a percentage of youth survey responses.

Source: National Longitudinal Transition Study 2012; National Longitudinal Transition Study 2.

The number of responses and the response rates varied across the studies (table A-3). The following response rates are calculated as a percentage of students sampled in the participating districts:

- **NLTS 2012.** Across the two years of data collection, 12,988 parent surveys were completed, representing a 59 percent unweighted response rate. A total of 11,128 youth surveys were completed either by youth directly or parent proxy, representing a 51 percent unweighted response rate of the full youth sample.
- **NLTS2.** In Wave 2, 6,714 parent interviews were completed, representing 60 percent of the original sample. A total of 6,322 youth interviews were completed in Wave 2 either by youth directly or parent proxy, representing 56 percent of the original sample.
- **NLTS.** In Wave 1, 6,896 parent interviews were completed, representing 67 percent of the sample.

in which parents acted as proxy respondents in some cases.

**Table A-3. Parent and youth survey respondent samples and response rates for NLTS 2012, NLTS2 Wave 2, and NLTS Wave 1**

Disability group	NLTS 2012		NLTS2 Wave 2		NLTS Wave 1	
	Respondents	Response rate	Respondents	Response rate	Respondents	Response rate
<b>Parent survey</b>						
All youth	12,988	59	6,714	60	6,896	67
IEP	10,459	60	6,714	60	6,896	67
No IEP	2,529	56	0	–	0	–
504 plan but no IEP	664	57	0	–	0	–
Neither 504 plan nor IEP	1,865	56	0	–	0	–
<b>Youth survey</b>						
All youth	11,128	51	6,322	56	0	–
IEP	8,960	51	6,322	56	0	–
No IEP	2,168	48	0	–	0	–
504 plan but no IEP	576	49	0	–	0	–
Neither 504 plan nor IEP	1,592	48	0	–	0	–

– = not applicable.

NLTS is National Longitudinal Transition Study; IEP is individualized education program.

Source: Authors' calculations using the restricted-used data files for the NLTS 2012, NLTS2 Wave 2, and the NLTS Wave 1. The sample frame counts for the NLTS 2012 come from Burghardt et al. (2017), and the counts for the NLTS2 and the NLTS come from exhibit A-2 of Wagner, Cameto & Newman (2003).

## A.5. The population of interest and analytic sample used for this volume

The population of interest for this volume consists of youth with an IEP who were (1) enrolled in secondary school during the school year in which they and/or their parents were interviewed, and (2) ages 15 to 18 or ages 19 to 21 at that time. The study team selected this population in consultation with the Institute of Education Sciences (IES) and the NLTS 2012 Technical Working Group (TWG) to focus the analysis of trends on students near the point of leaving high school, and in consideration of the ages of students in the two previous studies. In particular, NLTS2 sample members were ages 15 to 19 when they and their parents were interviewed for Wave 2 of that study in 2003 (see table A-4). NLTS sample members were ages 15 to 23 when their parents were interviewed for Wave 1 in 1987. As a result, this volume can analyze trends for 15- to 18-year-olds across all three studies, and for 19- to 21-year-olds across the NLTS 2012 and the NLTS. These age ranges also correspond to those used in Volumes 1 and 2 of the findings from the NLTS 2012.

**Table A-4. Age and survey completion year of youth in this report**

Study	Population of youth with an individualized education program when sampled	Age and survey completion year of the youth analyzed in this volume
NLTS 2012	Ages 13 to 21 in the 2011–2012 school year	Ages 15 to 18 and 19 to 21 in 2012 or 2013
NLTS2	Ages 13 to 16 in the 2000–2001 school year	Ages 15 to 18 in 2003
NLTS	Ages 13 to 21 in the 1985–1986 school year	Ages 15 to 18 and 19 to 21 in 1987

Source: National Longitudinal Transition Study 2012; National Longitudinal Transition Study 2; National Longitudinal Transition Study.

The study team made one additional restriction to the NLTS 2012 analytic sample to improve comparability of measures that are correlated with age. To match the age ranges of youth in the NLTS and NLTS2, the 15-year



old youth from the NLTS 2012 included in this volume are only those who were at least 15 years and 5 months in age. The amount of time that elapsed between sample selection and data collection for the NLTS2 and NLTS meant that the respondent sample of 15-year-olds in NLTS2 Wave 2 and NLTS Wave 1 were older (that is, concentrated more among those closer to their 16th birthday). For example, when the NLTS2 Wave 2 data was collected in spring 2003, the 15-year-olds tended to be older within that age. The NLTS 2012 full sample, in contrast, included the full range of 15-year-olds when data were collected in 2012 and 2013 because the original sample focused on 13- to 21-year-olds. Thus, it was necessary to exclude the youngest NLTS 2012 15 year olds to maintain comparability with the other studies in the NLTS series.

This volume also examines trends for groups of youth with an IEP defined by their primary disability reported by school districts in accordance with IDEA. Before 1990, IDEA did not recognize autism and traumatic brain injury as distinct categories of disabilities. The youth with these disabilities in the NLTS were assigned to other categories based on the descriptions of the primary disability provided by parents, or to other health impairments if no such description was provided (Wagner et al., 2003). The study team for this volume, in consultation with IES and the NLTS 2012 TWG, did not combine any disability groups to address the differences in category definitions over time, judging the set of categories at each time point to be the most policy-relevant groups for a descriptive analysis of trends in their characteristics and experiences. Finally, this volume does not provide information for 19- to 21-year-olds disaggregated by disability due to small sample sizes in some of the disability groups.

The final sample sizes for the analysis in this volume were 6,151 respondents to the NLTS 2012 parent survey and 5,177 respondents to the NLTS 2012 youth survey; 5,457 respondents to the NLTS2 parent survey and 2,773 respondents to the NLTS2 youth survey; and 5,345 respondents to the NLTS parent survey.

## A.6. Development of weights and weight adjustments for this volume

The analysis weights in the three studies were created so that sample estimates reflected the populations of interest, specifically the population of students with an IEP by age during the relevant school year. The study team used the weight variables supplied in each study's restricted-use data file (RUF).<sup>6</sup> The NLTS 2012 weights were developed in three stages (Burghardt et al., 2017). First, the team calculated the probability of selection of each student, based on the sample design. Second, the weights were adjusted to account for nonresponse separately for parents and youth. Third, the weights were post-stratified so that the totals matched those for specific demographic and age groups. The NLTS2 and NLTS weights were calculated by first adjusting the initial student sampling weights by disability category based on the geography of and poverty rate in each size stratum (Wagner et al., 2005; Javitz & Wagner, 1990).

The weights supplied in each RUF were then adjusted for the purposes of conducting the trends analysis so that the weighted counts of students by disability group were equal to the corresponding totals in the student population. Post-stratification was conducted in consultation with IES and the NLTS 2012 TWG. The details of the post-stratification process for each study are described below.

---

<sup>6</sup> The weight variables for the NLTS 2012 are called *p\_weight\_enrolled* and *y\_weight\_enrolled*. The weight variables for the NLTS2 Wave 2 are called *np2Wt* and *np2YouthWt*. The weight variable for the NLTS is called *W1\_Base\_Weight*.

- **NLTS 2012.** Three adjustments to the weights were needed for the analyses in this volume. First, youth outside the 15 to 21 age range were assigned a missing weight value, including the younger 15-year-olds who were excluded from the analytic sample as described in section A.5. Second, the study constructed a consistent definition of being enrolled in school across the three NLTS data sources, and assigned a missing weight value to anyone not meeting that definition.<sup>7</sup> Third, the remaining sample was post-stratified to represent the full population of students with an IEP by age. These changes had different effects on the weights for youth at different ages. For 15-year-olds, the weights among the remaining youth who were enrolled in school based on the modified definition were increased to represent the full population of 15-year-olds. The weights for youth ages 16 and 17 who were enrolled in school based on the modified definition were also increased to represent the full population of youth at each age. For the 19- to 21-year-olds, the original NLTS 2012 analysis weights were based on a more complex post-stratification process, including grouping all youth who were at least 19 years old together and including covariates such as gender and race (Burghardt et al., 2017). In this volume, the weights were adjusted so that youth ages 19, 20, and 21 represented the full population of youth with an IEP age each age.
- **NLTS2 and NLTS.** The weights for the analysis samples were adjusted to match enrolled population totals by age in the school year in which data were collected. Because the NLTS2 data collection was fielded in spring 2003, the weights were post-stratified to the 2002–2003 school year. As in the NLTS 2012, the weights for the 15-year-olds in the NLTS2 were increased so they represented the full population of 15-year-olds. The NLTS data collection occurred in summer and fall 1987, but the weights had been post-stratified to match the 1985–1986 school year, when sampling occurred. The study team instead post-stratified them to match the 1987–1988 school year in which data collection took place. The post-stratification targets used in this volume for each study included some youth with an IEP from U.S. entities beyond the 50 states and Washington, DC (namely, the Bureau of Indian Education schools for NLTS2 and U.S. territories for the NLTS), but these entities constitute less than 1 percent of all youth with an IEP.

Tables A-5 and A-6 show the post-stratification adjustment factors for respondents in each age and study. The adjustment factor is the population size divided by the sum of the unadjusted analysis weights, and ranges from 0.38 to 3.04 for the parent survey and 0.47 to 2.98 for the youth survey.

---

<sup>7</sup> The definition of being enrolled in school in Volume 3 is based on parent survey responses only because the NLTS did not include a youth survey in 1987. In contrast, youth in the Volumes 1 and 2 reports could be labeled as enrolled in school based on responses to either the NLTS 2012 parent or youth survey.

**Table A-5. Sample sizes and adjustment factors for the parent survey, by study and age of youth**

Youth age	Population size	Unadjusted sample size	Adjusted sample size	Sum of unadjusted analysis weights	Adjustment factor for analysis weights	Sum of adjusted analysis weights
<b>NLTS 2012 15 to 18 years old in 2012</b>						
15 years old	445,915	1,630	990	279,211	1.60	445,915
16 years old	441,951	1,520	1,520	440,701	1.00	441,951
17 years old	418,363	1,480	1,480	419,613	1.00	418,363
18 years old	234,366	1,200	1,200	234,366	1.00	234,366
<b>NLTS 2012 19 to 21 years old in 2012</b>						
19 years old	75,371	550	550	79,329	0.95	75,371
20 years old	37,621	260	260	30,304	1.24	37,621
21 years old	18,493	150	150	17,505	1.06	18,493
<b>NLTS2 15 to 18 years old in 2003</b>						
15 years old	479,678	630	630	157,928	3.04	479,678
16 years old	438,322	1,700	1,700	478,316	0.92	438,322
17 years old	373,807	1,680	1,680	450,527	0.83	373,807
18 years old	196,142	1,450	1,450	456,958	0.43	196,142
<b>NLTS 15 to 18 years old in 1988</b>						
15 years old	287,784	810	810	166,660	1.73	287,784
16 years old	268,633	1,000	1,000	209,104	1.28	268,633
17 years old	223,930	1,040	1,040	222,654	1.01	223,930
18 years old	126,553	1,090	1,090	176,099	0.72	126,553
<b>NLTS 19 to 21 years old in 1988</b>						
19 years old	43,484	740	740	114,583	0.38	43,484
20 years old	18,240	370	370	44,932	0.41	18,240
21 years old	9,558	300	300	20,185	0.47	9,558

Note: Unadjusted and adjusted sample sizes are rounded to the nearest 10. The sum of the unadjusted analysis weights does not equal the population size for NLTS 2012 due to a modified definition of enrolled in school for comparability over time, the adjustment to the sample size for 15-year-olds, and differences in the post-stratification process used in this volume versus the NLTS 2012 restricted-use data file.

Source: Authors' calculations using the National Longitudinal Transition Study 2012, National Longitudinal Transition Study 2, and the National Longitudinal Transition Study data.

**Table A-6. Sample sizes and adjustment factors for the youth survey, by study and age of youth**

Youth age	Population size	Unadjusted sample size	Adjusted sample size	Sum of unadjusted analysis weights	Adjustment factor for analysis weights	Sum of adjusted analysis weights
<b>NLTS 2012 15 to 18 years old in 2012</b>						
15 years old	445,915	1,410	840	269,902	1.65	445,915
16 years old	441,951	1,310	1,310	440,693	1.00	441,951
17 years old	418,363	1,250	1,250	419,621	1.00	418,363
18 years old	234,366	1,000	1,000	234,366	1.00	234,366
<b>NLTS 2012 19 to 21 years old in 2012</b>						
19 years old	75,371	450	450	79,353	0.95	75,371
20 years old	37,621	210	210	29,984	1.25	37,621
21 years old	18,493	120	120	17,338	1.07	18,493
<b>NLTS2 15 to 18 years old in 2003</b>						
15 years old	479,678	610	610	160,811	2.98	479,678
16 years old	438,322	1,600	1,600	416,807	1.05	438,322
17 years old	373,807	1,600	1,600	466,106	0.80	373,807
18 years old	196,142	1,360	1,360	420,216	0.47	196,142

Note: Unadjusted and adjusted sample sizes are rounded to the nearest 10. The sum of the unadjusted analysis weights does not equal the population size for NLTS 2012 due to a modified definition of enrolled in school for comparability over time, the adjustment to the sample size for 15-year-olds, and differences in the post-stratification process used in this volume versus the NLTS 2012 restricted-use data file.

Source: Authors' calculations using the National Longitudinal Transition Study 2012 and National Longitudinal Transition Study 2 data.

## A.7. Unit nonresponse bias analysis

Because low response rates can lead to a bias in results if survey respondents and nonrespondents have different characteristics, all three studies in the NLTS series conducted analyses to examine the potential for nonresponse bias in the surveys. Together, the results suggest that nonresponse adjustments to the weights succeeded in limiting the potential for bias. However, it remains possible that the nonresponse-adjusted weights do not fully account for all differences between respondents and nonrespondents. Thus, readers should draw conclusions with caution.

More details on the unit nonresponse analyses conducted for each study are available in Burghardt et al. (2017) and Javitz & Wagner (1990, 2005).

## A.8. Imputation and the handling of missing data

For the analysis in this volume, values in all three studies in the NLTS series were imputed for a binary variable that indicates whether the youth is from a low-income household. This constructed variable is defined as household income below 185 percent of the federal poverty level, which is the eligibility threshold for schools' free or reduced-price lunch programs. The study used available income and other data needed to calculate whether household income was within 185 percent of the federal poverty level. Household income is calculated using parent-reported income or the midpoint of parent-reported income ranges. The federal poverty level for the household is based on parent reports of the total number of adults and children in the household, as well as

on the year for which income is reported and the state of residence. The study imputed values in each dataset when one of these key variables was missing. Specifically, the study used a hot deck imputation procedure to impute values for the variable, using other variables that were most highly correlated with whether the household's income was above or below 185 percent of the federal poverty level, as determined from logistic regression models. Just over 7 percent of parent survey respondents for the NLTS 2012, 17 percent for the NLTS2, and 12 percent for the NLTS have imputed values for this variable.

## **A.9. Statistical procedures and variance estimation**

### *A.9.1. Statistical procedures*

The volume presents comparisons of averages between groups of students from different studies that have been tested for statistically significant differences (set at a probability of 0.05) to assess whether they are larger than might be expected due to sampling variation. All of the comparisons in this volume are between mutually exclusive groups. F-tests are computed using the following formula:

$$F = \frac{(\mu_1 - \mu_0)^2}{\text{var}(\mu_1) + \text{var}(\mu_0)}$$

In the formula,  $\mu_1$  and  $\mu_0$  are the estimates of the means for the two groups being compared. For example,  $\mu_1$  could be the mean for youth with an IEP overall in 2012 and  $\mu_0$  the mean for youth with an IEP overall in 2003. The test statistic is compared to an F distribution, with degrees of freedom equal to 1 and the difference between the number of primary sampling units and strata. Whether the F-test statistic is considered statistically significant is determined by comparing it with published tables of critical values. The report did not make a statistical adjustment for multiple comparisons.

This statistical procedure in this volume differs from the comparisons in Volumes 1 and 2, many of which are between overlapping groups in which one group is a subset of a larger reference group. In contrast to the F-statistic used in Volumes 1 and 2, the F-statistic used in this volume does not include a covariance term because the variance of the mean for a group in a given time period does not depend on the analytic sample from another time period. As a result, the two means are independent, and the covariance term is equal to 0.

The report focuses on differences that are both (a) statistically significant (not due to chance) and (b) at least 5 percentage points to call attention to the variation that is substantive and policy relevant. The study team selected this level in consultation with IES and content experts, judging differences of less magnitude not large enough to inform policy, practice, or the targeting of technical assistance. The 5 percentage point level was not empirically derived or based on an external standard.

### *A.9.2. Variance estimation*

The sample design for all three studies in the NLTS series included multiple stages of sampling and stratification with different selection rates of youth across disability groups. Many standard software packages calculate

estimates under the assumption of a simple random sample design as in traditional mathematical statistics and do not account for the clustering of students within schools. Assuming that the studies used simple random sample designs is not correct and can lead to estimated variances and confidence intervals that are too small. Underestimating the width of confidence intervals can incorrectly lead to conclusions that the trend for a group is upward or downward by a statistically significant margin when it is not. To support the variance estimation, the study developed variance estimation parameters that permit the computation of variance estimates through a Taylor series approximation using only the analytic weight. Analyses supporting this report used statistical software with the capabilities of accounting for the complex design.

## A.10. Analytic variables

This volume uses information collected through parent and youth surveys for the three studies in the NLTS series, and from administrative sources, to address five broad questions of interest to policymakers, educators, and other stakeholders (listed below). The volume describes only the survey measures most relevant to addressing these questions that can be compared across the studies.

- How have the background characteristics of youth and the schools they attend changed?
- Are the challenges youth face with health, functional abilities, and independent living different than in the past?
- Are youth engaging in school in different ways or to different degrees?
- Have the academic and special education supports that youth receive changed?
- How have youth changed the way they prepare for life after high school?

The first subsection (A.10.1) describes the process for identifying comparable measures from across the studies. The next subsection (A.10.2) lists the analytic variables included in this volume. Subsection A.10.3 provides more detail on constructed measures used in the analysis that involve administrative data. Finally, subsection A.10.4 describes a set of key indicators for the analysis. The RUFs for each data file provide more information for researchers, including copies of the parent and youth survey instruments and codebook descriptions of each variable.

### *A.10.1. Process for identifying comparable measures across studies*

This volume presents trends only for measures that can be meaningfully compared across the NLTS 2012, NLTS2, and/or NLTS. The study team used the following four criteria to select measures for the analysis.

1. **The wording of the survey questions must be substantively the same.** Data had to be based on survey questions with the same or similar wording to serve as indicators of the same underlying constructs. If the wording differed slightly across the surveys, the study team determined whether the question was likely to have had the same interpretation by respondents in each study. For example, youth responding to the NLTS2 Wave 2 survey were asked to “Please tell me how much you . . . feel like you were part of the school,” whereas those responding to the NLTS 2012 survey were asked to what degree “I felt like I was part of this school.” Although the wording of the questions differs, the study team judged them to be substantively the same. The study team considered a survey question that references different amounts of time across the

studies to be not comparable. For instance, NLTS parents were asked whether their children had been in households that received Supplemental Security Income (SSI) benefits in the past 12 months. The question was also posed to parents in NLTS2 and NLTS 2012, but those questions asked whether SSI benefits were received in the past two years, likely leading to higher proportions. Due to this difference in the reference period, this volume examines SSI benefit receipt using only the NLTS 2012 and NLTS2 data.

2. **The wording of the response categories must be qualitatively similar.** The set of available responses to the questions had to align across studies to measure constructs in the same way. For example, the response categories for the question about whether youth feel a part of the school differed between the NLTS 2012 and the NLTS2. In the NLTS 2012, the response options were “agree a lot,” “agree a little,” “disagree a little,” and “disagree a lot.” In NLTS2, the response options were “a lot,” “pretty much,” “a little,” and “not at all.” The only qualitatively similar response for examining trends is “agree a lot” (NLTS 2012) and “a lot” (NLTS2).
3. **The intended type of survey respondent must be the same.** The analyses for this volume did not examine trends for measures asked of different survey respondents (for example, parent survey respondents in one study and youth survey respondents in another). Comparing responses from a parent survey with responses from a youth survey can be problematic because parents and youth might have different perspectives on the same question. For example, the NLTS 2012 and the NLTS2 asked youth questions about their participation in school activities, whereas the NLTS asked these questions of parents. For these variables, this volume therefore examines trends using data from only the NLTS 2012 and the NLTS2. The analyses did, however, retain youth data provided by parent proxies because the intended type of survey respondent was the same (section A.4 contains more detail on proxy responses).
4. **The measure must exist in the data file.** Several of the measures collected for the NLTS are not included in the available RUF. For instance, activities of daily living are available only as an aggregate measure in NLTS and not as individual items in the data file.

### *A.10.2. List of analytic variables*

Table A-7 provides the full set of analytic variables used in Volume 3, organized by the five questions addressed in the volume. The first three columns of the table describe each variable, indicate how it is referred to in the NLTS 2012 RUF, and list the appendix table in which it is used. The last two columns indicate how the variable was modified relative to its use in Volumes 1 and 2 to be comparable to similar variables in one or both previous studies. Most modifications pertained either to the formulation of the measure’s content (for example, examining responses that agree “a lot” instead of agree “a little” or “a lot”) or its analytic universe.

**Table A-7. NLTS 2012 variables used in Volume 3**

Description	Variable name(s) in NLTS 2012 RUF	Appendix table number	Modification of analytic variable relative to Volumes 1 and 2 for comparability with previous studies	Modification of analytic universe relative to Volumes 1 and 2 for comparability with previous studies
<b>What are the background characteristics of youth and the schools they attend?</b>				
Youth in households in which parent or spouse has a paid job	p_h_employed	B-1	None	None
Youth in low-income households	p_h_pov185	B-2	None	None
Youth in households that received SNAP benefits in the past two years	p_h_snap	B-3	None	None
Youth in households that received TANF or state welfare benefits in the past two years	p_h_tanf	B-4	None	None
Youth who received SSI benefits in the past two years	p_y_ssi	B-5	None	None
Youth whose parent is not married or in a marriage-like relationship	p_p_notmarried	B-6	None	
Youth who have private health insurance	p_y_inshealthpriv	B-7	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 18
Youth who have government-assisted or public health plans	p_y_inshealthother	B-8	None	Restricted from all youth not covered by private health insurance to those who live with their parents at least some of the time and are younger than 18
Youth who have private nor public health insurance	p_y_inshealth	B-9	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 18
Youth who are male	p_y_male	B-10	None	None
Youth who are Black, not Hispanic or Latino	p_y_raceeth3	B-11	None	None
Youth who are Hispanic or Latino, of any race	p_y_raceeth3	B-12	None	None
Youth who are White, Asian, or other race, not Hispanic or Latino	p_y_raceeth3	B-13	None	None
Youth attending a school for students with disabilities	p_y_school	B-14	None	None
<b>What challenges do youth face relating to health, functional abilities, and independence?</b>				
Youth who have excellent or very good health	p_y_health	C-1	None	None
Youth who use prescription behavioral medicines	p_y_medicine	C-2	None	None
Youth who have any trouble communicating by any means	p_y_communicate	C-3	None	None
Youth who have any trouble understanding what other people say to them	p_y_understand	C-4	None	None
Youth who fix their own breakfast or lunch	p_y_fixmeal	C-5	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17
Youth who do laundry	p_y_dolaundry	C-6	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17
Youth who straighten up their own room or living area	p_y_cleanroom	C-7	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17



Volume 3: Comparisons over time

Description	Variable name(s) in NLTS 2012 RUF	Appendix table number	Modification of analytic variable relative to Volumes 1 and 2 for comparability with previous studies	Modification of analytic universe relative to Volumes 1 and 2 for comparability with previous studies
Youth who buy things they need at the store	p_y_buything	C-8	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17
Youth who get to places outside the home	p_y_getplace	C-9	None	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17
Youth who perform all five activities of daily living well	p_y_fixmeal, p_y_dolaundry, p_y_cleanroom, p_y_buything, p_y_getplace	C-10	Examines youth who perform all five activities “always” or “often” without help, rather than creating a scale of responses	Restricted from all youth to those who live with their parents at least some of the time and are younger than 17
Youth who have an allowance or other money they can decide how to spend	y_y_haveallowance	C-11	None	None
Youth who have a savings or checking account	y_y_haveaccount	C-12	None	None
<b>How engaged are youth in school and with friends?</b>				
Youth who agree a lot that they feel part of the school	y_y_belongsatschool	D-1	Examines responses that agree “a lot” instead of agree “a little” or “a lot”	None
Youth who agree that a school adult cares about them	y_y_adultcare	D-2	None	None
Youth who agree that they feel safe in school	y_y_feelsafe	D-3	None	None
Youth who had items stolen from their locker, desk, or other place at school	y_y_robbed	D-4	None	None
Youth who were teased or called names at school	y_y_teased	D-5	None	None
Youth who participated in a school or non-school club or sports team	y_y_schactany, y_y_nonactany	D-6	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in a school club or sports team	y_y_schactany	D-7	None	None
Youth who participated in a non-school club or sports team	y_y_nonactany	D-8	None	None
Youth who participated in a sports team	y_y_schactsports, y_y_nonsports	D-9	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in a club	y_y_schactarts, y_y_schactgov, y_y_schactacademics, y_y_schactvolunteer, y_y_schactcareer, y_y_schactother, y_y_nonactarts, y_y_nonactrel, y_y_nonacademics, y_y_nonactvolunteer, y_y_nonactother	D-10	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in a fine arts club or lesson	y_y_schactarts, y_y_nonactarts	D-11	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in student government	y_y_schactgov	D-12	None	None

Description	Variable name(s) in NLTS 2012 RUF	Appendix table number	Modification of analytic variable relative to Volumes 1 and 2 for comparability with previous studies	Modification of analytic universe relative to Volumes 1 and 2 for comparability with previous studies
Youth who participated in an academic club or lesson	y_y_schactacademics, y_y_nonacademics	D-13	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in a volunteer group	y_y_schactvolunteer, y_y_nonactvolunteer	D-14	Combines in-school and out-of-school activities, rather than separate measures	None
Youth who participated in a vocational or career club	y_y_schactcareer	D-15	None	None
Youth who participated in a religious youth group	y_y_nonactrel	D-16	None	None
Youth who participated in another club or activity	y_y_schactother	D-17	None	None
Youth who have repeated a grade	p_y_heldback	D-18	None	None
Youth who have received an out-of-school suspension	p_y_suspended	D-19	None	None
Youth who have been expelled from school	p_y_expelled	D-20	None	None
Youth who have been arrested in the past two years	p_y_arrested	D-21	None	None
<b>What academic supports do youth receive?</b>				
Youth who received support services at school	p_y_tutor, p_y_accsrv_reader, p_y_accsrv_mental, p_y_accsrv_hear, p_y_accsrv_lang, p_y_accsrv_mob, p_y_accsrv_phys, D31y, p_y_accsrv_transp,	E-1	Combines tutoring, reader/interpreter, psychological/mental health counseling, audiology, speech or language, mobility and orientation, and physical or occupational therapy, life skills, and special transportation services	Restricted from youth who were ever diagnosed with a disability, ever had an IEP, or ever had a 504 plan according to parents to youth who received special education services in the past year according to parents
Youth who received services from a tutor, reader, or interpreter at school	p_y_tutor, p_y_accsrv_reader	E-2	Examines youth who received tutoring or reader/interpreter services, instead of only tutoring	Restricted to youth who received special education services in the past year according to parents
Youth who received psychological or mental health counseling services at school	p_y_accsrv_mental	E-3	None	Restricted to youth who received special education services in the past year according to parents
Youth who received audiology services at school	p_y_accsrv_hear	E-4	None	Restricted to youth who received special education services in the past year according to parents
Youth who received speech or language therapy at school	p_y_accsrv_lang	E-5	None	Restricted to youth who received special education services in the past year according to parents
Youth who received physical or occupational therapy at school	p_y_accsrv_mob, p_y_accsrv_phys, D31y	E-6	Examines youth who received physical, mobility, or life skills services instead of only physical or mobility services	Restricted to youth who received special education services in the past year according to parents
Youth received special transportation services at school	p_y_accsrv_transp	E-7	None	Restricted to youth who received special education services in the past year according to parents
Youth whose parent attended a parent-teacher conference	p_p_schconf	E-8	None	Restricted from all youth to youth who were enrolled in a school setting according to parents (e.g., not homeschooled or in a medical facility only)

Description	Variable name(s) in NLTS 2012 RUF	Appendix table number	Modification of analytic variable relative to Volumes 1 and 2 for comparability with previous studies	Modification of analytic universe relative to Volumes 1 and 2 for comparability with previous studies
Youth whose parent helped with homework at least once a week	p_p_helphomework	E-9, E-10	None	Restricted from all youth to youth who were enrolled in a school setting according to parents (e.g., not homeschooled or in a medical facility only)
Youth whose parent helped with homework and who received tutoring	p_y_tutor, p_y_accsrv_reader, p_p_helphomework	E-11	Combines youth who received tutoring and reader/interpreter services and whose parent helped with homework, rather than each measure separately	Restricted to youth who live with their parents at least some of the time, were not homeschooled, who did not live in a residential school, and who received special education services in the past year according to parents
Youth whose parent helped with homework or who received tutoring	p_y_tutor, p_y_accsrv_reader, p_p_helphomework	E-12	Combines youth who received tutoring or reader/interpreter services and whose parent helped with homework, rather than each measure separately	Restricted to youth who live with their parents at least some of the time, were not homeschooled, who did not live in a residential school, and who received special education services in the past year according to parents
Youth whose parent talks with them regularly about school experiences	p_p_talksch	E-13	None	Restricted to youth who live with their parents at least some of the time and were enrolled in a school in a school setting (e.g., not homeschooled, in a medical facility, a post-high school program, or a correctional or juvenile justice facility only)
Youth whose parent attended a general school meeting	p_p_schmeet	E-14	None	Restricted to youth who were enrolled in a school in a school setting (e.g., not homeschooled, in a medical facility, a post-high school program, or a correctional or juvenile justice facility only)
Youth whose parent volunteered at school	p_p_schvolunteer	E-15	None	Restricted to youth who were enrolled in a school in a school setting (e.g., not homeschooled, in a medical facility, a post-high school program, or a correctional or juvenile justice facility only)
<b>How are youth preparing for life after high school?</b>				
Youth who have met with school staff to develop a transition plan	y_y_tpmeet	F-1	None	Restricted to youth who received special education services in the past year according to parents
Youth whose parent has met with school staff to develop a transition plan	p_p_tpmeet	F-2	None	Restricted to youth who received special education services in the past year according to parents

Volume 3: Comparisons over time

Description	Variable name(s) in NLTS 2012 RUF	Appendix table number	Modification of analytic variable relative to Volumes 1 and 2 for comparability with previous studies	Modification of analytic universe relative to Volumes 1 and 2 for comparability with previous studies
Youth who attended an IEP meeting in the past two years	y_y_iepmeet17	F-3	None	Restricted to youth who received special education services in the past year according to parents
Youth whose parent attended an IEP meeting in the past two years	p_p_iepmeet17	F-4	None	Restricted to youth who received special education services in the past year according to parents
Youth who provided at least some input in IEP and transition planning	p_y_goalsomeinput	F-5	None	Restricted to youth who received special education services in the past year according to parents
Youth who had a nonschool paid job at the time of the survey	N7	F-6	Examines youth who had a nonschool paid job at the time of the survey instead of in the past 12 months	Restricted to youth who were enrolled in a school in a school setting (e.g., not homeschooled, in a medical facility, a post-high school program, or a correctional or juvenile justice facility only)
Youth who had a school-sponsored job	N1	F-7	None	Restricted to youth who were enrolled in a school in a school setting (e.g., not homeschooled, in a medical facility, a post-high school program, or a correctional or juvenile justice facility only)
Youth who had a paid school-sponsored job	N1, N1b	F-8	Variable not examined in Volumes 1 and 2	Not applicable
Youth who had an unpaid school-sponsored job	N1, N1b	F-9	Variable not examined in Volumes 1 and 2	Not applicable

NLTS is National Longitudinal Transition Study; RUF is restricted-use data file; SNAP is Supplemental Nutrition Assistance Program; TANF is Temporary Assistance for Needy Families; IEP is individualized education program.

Source: National Longitudinal Transition Study 2012.

### ***A.10.3. Constructed measures that involve administrative data***

This section describes constructed measures the study developed based on administrative data provided by school districts as part of the sample frame. Brief descriptions of all analytic variables are available in the note and source fields beneath each table or figure. In addition, detailed descriptions of each variable are provided to users of the NLTS 2012 data in the NLTS 2012 Users Guide (Bloomenthal et al., 2017). The study team examined comparable variables from the NLTS and/or NLTS2.

- **Youth disability group (*d\_y\_disability*)**. This variable indicates the youth's primary disability group as reported by school districts, and is used to form the groups in the analysis. The categories are autism, deaf-blindness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, visual impairment, IEP but unspecified disability, 504 plan but no IEP, and neither 504 plan nor IEP.
- **Youth age (*p\_y\_age*)**. This variable indicates the youth's age in years at the time the parent survey respondent completed the parent survey. School districts provided the birth date information used in the study, which parents either confirmed or corrected in the survey.
- **Youth gender (*p\_y\_gender*)**. This variable indicates whether the youth is male or female. The variable relies on district-reported data when parent-reported data are missing.
- **Youth race and ethnicity (*p\_y\_raceeth3*)**. This variable indicates whether the youth is Black (not Hispanic); Hispanic; or White, Asian, or other race (not Hispanic). Black includes African American. Hispanic includes Latino. Other race includes American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander. The variable relies on district-reported data when parent-reported data are missing.
- **Youth limited English proficiency status (*d\_y\_lep*)**. This variable indicates whether the youth is limited English proficient or not, as reported by the school district.

### ***A.10.4. Key indicators linked to post-high school success***

The most important findings pertain to key experiences, services, and expectations selected by the study team that are predictors of youths' post-high school outcomes. Several of these indicators also represent supports or activities that IDEA encourages schools to offer to youth with an IEP to improve their outcomes. Table A-8 identifies these key indicators and some of the reasons they are important to policymakers, educators, and other stakeholders. This volume's executive summary focuses on this subset of the large number of measures available from this study.

**Table A-8. Key indicators linked to post-high school success**

Chapter	Measure	Survey	Why measure is important to policymakers and educators
3	Performing five activities of daily living always or often without help	Parent	The ability to complete daily activities at home and in the community may be a signal of preparedness to live independently in the future. Promoting functional independence is also an intent of transition services provided by schools under IDEA 2004. Prior studies on youth with an IEP found an association between performance on activities of daily living and higher rates of post-high school employment and self-reported higher quality of life (Carter, Austin, & Trainor, 2012; Roessler, Brolin, & Johnson, 1990).
4	Participating in at least one school-sponsored extracurricular activity in the past year	Youth	Participating in organized extracurricular activities is thought to help students connect with school and friends, and build teamwork and leadership skills. Prior studies of youth overall found a correlation between participation in these activities and academic performance, better educational attainment, and labor market success (Barron et al., 2000; Kuhn & Weinberger, 2005; Lipscomb, 2007; Stevenson, 2010).
4	Ever having been suspended from school	Parent	Suspensions cause students to miss instruction and opportunities to be engaged in school, and are associated with a variety of negative outcomes including low academic achievement, dropping out of high school, and adult incarceration (Christle, Jolivette, & Nelson, 2005; Sullivan et al., 2014; Zablocki & Krezmien, 2013). Concern about high rates of disciplinary actions among students with disabilities is reflected in the IDEA 2004 performance indicator that requires states to monitor how often youth with an IEP are suspended and expelled.
5	Received services from a tutor, reader, or interpreter at school	Parent	Both IDEA 1997 and 2004 increased the emphasis on improving the academic achievement of youth in special education because academic performance is widely considered to be positively related to outcomes later in life. Schools can support these students using the support services funded by IDEA, such as tutoring, as well as psychological services, speech and language therapy, physical and occupational therapy, and others. With passage of the No Child Left Behind Act, schools are increasingly expected to improve the academic proficiency youth with an IEP as a targeted subgroup. One way in which the act supported youth in low-performing schools was by promoting tutoring services (Warkentien & Grady, 2009).
5	Receiving parental help with homework at least weekly during the school year	Parent	Updates to IDEA since 1997 have emphasized the need to get parents involved in the educational development of their children. Parental homework help is positively correlated with achievement-related outcomes for high school students (Patall, Cooper, & Robinson, 2008). Among youth in special education specifically, parental involvement in education at home is a predictor of postsecondary enrollment in career and technical education programs as well as in two-year and four-year colleges (Wagner, Newman, & Javitz, 2014).
6	Youth attended a transition-planning meeting	Parent	Since IDEA began mandating transition services in 1990, practitioners and policymakers have placed greater emphasis on youth being active participants during IEP meetings and discussions about their transition plans (Johnson, 2012; Martin & Marshall, 1995; Wehmeyer, Agran, & Hughes, 1998). This emphasis on promoting self-determination reflects prior findings that student participation in transition planning significantly predicted youth with disabilities who enroll in postsecondary education and become employed after high school (Benz, Lindstrom, & Yovanoff, 2000; Halpern, Yovanoff, Doren, & Benz, 1995).

Chapter	Measure	Survey	Why measure is important to policymakers and educators
6	Having a paid job in the past year, including school-sponsored and nonschool jobs	Youth	A common finding in the research literature is that paid employment during high school is a strong predictor of, though not necessarily causally related to, post-high school employment and education for youth with an IEP (Mazzotti et al. 2016; Test et al. 2009). Although these findings may reflect, in part, the fact that youth who are already more independent during high school are more capable of working, high school employment experiences may also help students with disabilities to develop competencies that are useful for their longer term success (Cobb et al., 2013). For this reason, placing students in paid jobs is a key component of several work-based learning programs and other initiatives designed to improve employment outcomes for youth with disabilities (Baer et al., 2003; Fraker, 2013; Luecking & Fabian, 2000).

ED is U.S. Department of Education; IDEA 2004 is 2004 authorization of the Individuals with Disabilities Education Act; IEP is individualized education program.

Source: National Longitudinal Transition Study 2012.