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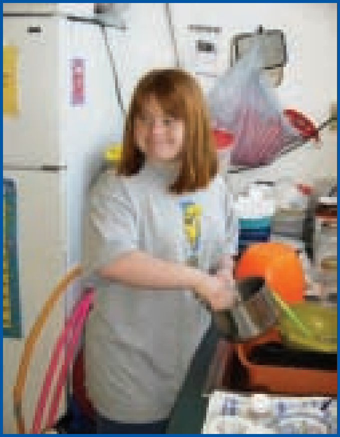
Perceptions and Expectations of Youth With Disabilities

A Special Topic Report of Findings From the National Longitudinal Transition Study-2 (NLTS2)



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A Special Topic Report of Findings From the National Longitudinal Transition Study-2 (NLTS2)

August 2007

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Contents

Executive Summary ix

1. Understanding the Perceptions and Expectations of Youth With Disabilities 1
  Research Questions 1
  Study Overview 2
  Data Sources for Youth With Disabilities 3
    Youth Self-Representations 3
    Parent/Guardian Interview/Survey 5
    School- and School-District-Identified Primary Disability Category 5
  Data Sources for Comparisons With Youth in the General Population 5
  Youth Included in the Report 6
  Analysis Approaches 8
  Technical Notes 9
  Organization of the Report 11

2. Youth With Disabilities' Views of Themselves and Their Lives 13
  "Who I Am" Self-Descriptions 13
  "How I Feel" Self-Descriptions 15
    Positive Aspects 15
    Negative Aspects 17
  Self-Realization Scale 18
  Disability Category Differences in Self-Descriptions and Life Descriptions 19
    "Who I Am" Self-Descriptions 19
    "How I Feel" Self-Descriptions 22
    Self-Realization Scale 24
  Demographic Differences in Self-Perceptions 25
  Summary 25

3. Self-Evaluations of the Strengths and Competencies of Youth With Disabilities 27
  Domain-Specific Competencies 27
  General Competencies 30
  Disability Category Differences in Self-Evaluations of Students' Competencies 31
    Domain-Specific Competencies 31
    General Competencies 34
  Summary 34

4. **Youth With Disabilities' Views of Secondary School** 37
Challenges at School 37
Academic Challenges 37
Interpersonal Challenges 39
School Safety 40
Services and Supports Received From School 41
Affiliation With School 41
Enjoyment of School 42
Disability Differences in School Experiences and Perceptions 43
Challenges at School 43
School Safety 46
Affiliation With School 46
Enjoyment of School 47
Demographic Differences in Perceptions of School Experiences 48
Summary 48

5. **Views of Personal Relationships** 51
Views of Relationships With Others 51
Sources of Support 53
Disability Category Differences in Views of Personal Relationships 56
Perceptions of Relationships With Others 56
Sources of Support 58
Demographic Differences in Views of Personal Relationships 61
Summary 62

6. **Youth's Expectations for the Future** 65
Educational Attainment Expectations 65
Independence Expectations 67
Relationships Among Expectations 69
Comparison With Parent Expectations 70
Disability Category Differences in Expectations 70
Educational Attainment 72
Independence 73
Summary 76

7. **A National Picture of the Self-Reported Perceptions and Expectations of Youth With Disabilities** 77
A Generally Positive Outlook 77
The Minority View 78
Disability Category Differences 78
Demographic Characteristics Rarely Differentiate the Views of Youth With Disabilities . 79
Comparisons With Youth in the General Population 80
Cautions in Interpreting Findings 80

References 83

Appendices

A. NLTS2 Sampling, Data Collection, and Analysis Procedures A-1
- NLTS2 Sample Overview A-1
- The NLTS2 LEA Sample A-1
  - Defining the Universe of LEAs A-1
  - Stratification A-2
  - LEA Sample Size A-3
- The NLTS2 Student Sample A-3
- Data Sources A-4
  - Telephone Interviews A-5
  - In-Person Youth Interviews A-7
- Weighting the Youth Data A-8
- Estimating Standard Errors A-10
- Determining Statistical Significance A-11
- Categorizing Students by Primary Disability A-12
- Appendix A References A-14

B. Additional Analysis B-1
- Comparisons of Youth Respondents and Youth for Whom Parents Responded B-1
- Distribution of Demographic Characteristics Across Disability Categories B-4
- Appendix B References B-6

List of Tables

Table Page

1 Youth with disabilities' reported perceptions of self attributes, by disability category 20

2 Youth with disabilities' reported feelings about positive aspects of self and life, by disability category 22

3 Youth with disabilities' reported feelings about negative aspects of self and life, by disability category 24

4 Self-realization scores of youth, by disability category 25

5 Youth with disabilities' perceptions of strengths and interests, by disability category 32

6 Youth with disabilities' feelings of competence, by disability category 33

7 Personal autonomy and psychology empowerment scores of youth, by disability category 34

8 Youth's reported perceptions of academic challenges, by disability category 44

9 Youth's perceptions of interpersonal challenges at school, by disability category 45

10 Youth's reported perceptions of school safety, by disability category 46

11 Youth's reported affiliation with school, by disability category 47

12 Youth's reported enjoyment of school, by disability category 48

13 Youth's reported perceptions of being cared about by parents and paid attention to by their families 56

14 Youth's reported perceptions of relationships with adults and friends, by disability category 57

15 Reported extent of youth's reliance on family and friends, by disability category 59

16 Reported extent of youth's reliance on persons other than family and friends for support, by disability category 60

17 Correlations among youth with disabilities' reported expectations for their future educational and independence attainment 69

18 Youth with disabilities' reported expectations for their future educational attainment, by disability category 72

19 Youth with disabilities' reported expectations for their future independence, by disability category 75

A-1 Data sources for variables included in this report A-5

A-2 Response rates for NLTS2 Waves 1 and 2 parent/youth data collection A-7

A-3 Response rates for NLTS2 youth assessments A-8

A-4 Example of weighted percentage calculation A-9

A-5 Definitions of disabilities A-15

B-1 Primary disability category of youth respondents and those for whom parents responded B-2

B-2 Daily living scale scores of youth respondents and those for whom parents responded B-2

B-3 Functional characteristics of youth respondents and those for whom parents responded B-3

B-4 Age at identification of and first services for disabilities of youth respondents and those for whom parents responded B-3

B-5 Demographic characteristics, by disability category B-5

List of Figures

Figure Page
1 Youth with disabilities' reported perceptions of self attributes 14
2 Youth with disabilities' reported feelings about positive aspects of self and life 16
3 Youth with disabilities' reported feelings about negative aspects of self and life 18
4 Self-realization scale scores 19
5 Youth's self-reports of a disability, by disability category 21
6 Youth with disabilities' reported self-evaluations of their strengths and abilities 28
7 Youth with disabilities' reported self-evaluations of self-advocacy skills 29
8 Reported competencies of youth with disabilities related to personal autonomy and psychological empowerment 31
9 Youth with disabilities' reported perceptions of school being "hard" 38
10 Youth with disabilities' reported academic challenges 38
11 Youth with disabilities' reported interpersonal challenges at school 40
12 Youth with disabilities' reported feelings of being part of their school 41
13 Youth with disabilities' reported level of involvement at school 42
14 Youth with disabilities' reported enjoyment of school 42
15 Youth with disabilities' reported feelings of being cared about by parents and paid attention to by their families 52
16 Youth with disabilities' reported views of friends 53
17 Reported extent of youth's reliance on family and friends for support 54
18 Reported extent of youth's reliance on persons outside their family 55
19 Youth with disabilities' reported expectations for their future educational attainment 66
20 Youth with disabilities' reported expectations for their future postsecondary school completion 66
21 Youth with disabilities' reported expectations for their future driving, employment, and financial independence 68
22 Youth with disabilities' reported expectations for their future residential independence 68
23 Expectations for youth's future educational and independence attainment reported by youth with disabilities and their parents 71

Executive Summary

A considerable body of research explores the relationships between subjective aspects of youth's experiences—e.g., their attitudes, perceptions, motivations, and self-efficacy—and their achievements in school (e.g., Akey 2006; Anderson, Hattie, and Hamilton 2005; Liu et al. 2006; Tuckman 1999). The related recognition that youth's attitudes are a potentially important ingredient in the successful transition of youth to early adulthood is reflected in the *National Standards and Quality Indicators: Transition Toolkit for Systems Improvement* (National Alliance for Secondary Education and Transition 2005). The National Longitudinal Transition Study-2 (NLTS2), funded by the National Center for Special Education Research at the Institute of Education Sciences, U.S. Department of Education, was initiated in 2001 to provide a national picture of the characteristics and experiences of youth with disabilities, including their self-representations[1] of themselves, their schooling, their personal relationships, and their hopes for the future. This report presents findings drawn from the first time data were collected directly from youth on these topics; they were ages 15 through 19 at the time (2003).

The large majority of information reported in this document comes from responses of youth with disabilities either to a telephone interview or to a self-administered mail survey, which contained a subset of key items from the telephone interview.[2] Data from the two sources were combined for the analyses presented in this report. A few additional items are from in-person interviews with youth conducted in conjunction with a direct assessment of their academic skills. When similar data are available, comparisons are made between youth with disabilities and the same-age youth in the general population.

It is important to note that the subgroup of youth who could respond for themselves differs in several ways from youth who were unable to respond, according to their parents.[3] For example, youth respondents are significantly more likely to have higher cognitive and self-care skills and are less likely to have sensory, physical, or communication difficulties.

In this report, NLTS2 findings address the following questions:

- How do youth with disabilities describe the kind of people they are—their feelings about themselves and their lives, and their skills and competencies?
- How do youth describe their secondary school experiences?
- How do youth characterize their personal relationships?
- What are their reported expectations for the future?
- How do these factors differ for youth with different disability and demographic characteristics?

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[1] Self-representations are "attributes or characteristics of the self that are consciously acknowledged by the individual through language—that is, how one describes oneself" (Harter 1999, p. 3).

[2] This report includes only data from youth who responded for themselves.

[3] Only group differences that are statistically significant at at least the $p < .01$ level are mentioned in the text throughout this report.

This is an executive summary of Wagner, M., Newman, L., Cameto, R., Levine, P., and Marder, C. (2007). *Perceptions and Expectations of Youth With Disabilities. A Special Topic Report From the National Longitudinal Transition Study-2 (NLTS2)* (NCSER 2007-3006). Menlo Park, CA: SRI International.

Youth With Disabilities' Descriptions of Themselves and Their Lives

Adolescents' self-descriptions have been found to be related to multiple social and academic outcomes. To ascertain their self-perceptions, youth with disabilities were asked questions about their views of themselves, perceptions of their disability, and feelings about their lives in general.

- Between 59 and 83 percent of youth with disabilities say that each of five positive attributes are "very much" like them—being nice, being proud of themselves, being able to handle challenges, feeling useful and important, and feeling that life is full of interesting things to do. Fifty-eight percent report that they enjoyed life in the previous week "most or all of the time."
- Similarly, about 60 percent report that in the previous week they "rarely or never" felt depressed, lonely, or disliked by others.
- Approximately three in five give themselves high marks on a broad measure of self-realization that assesses how youth perceive their strengths, limitations, and confidence in their abilities and interactions with others.
- In contrast, almost 1 in 10 youth with disabilities do not consider themselves to be useful or important "at all," and 12 percent say they "rarely or never" feel hopeful about the future.
- Fewer than one-third of those who had received special education services when they were ages 13 through 16 consider themselves to have a disability or special need by the time they are 15 through 19 years old.

Self-Evaluations of Strengths and Competencies

To document the self-representations of the competencies of youth with disabilities, youth were asked to report in telephone interviews how well they perform in six specific domains: athletics, computer use, mechanical tasks, creative arts, performing arts, and self-advocacy. In addition, two subscales from the Arc's Self-Determination Scale (Wehmeyer 2000) related to the broad concepts of personal autonomy and psychological empowerment were administered in in-person interviews with youth.

- More than half of youth with disabilities report they are at least "pretty good" in the areas of performing arts, creative arts, mechanical tasks, computer use, and physical or athletic performance.
- A comparison of parents' and youth's perceptions indicates that, overall, parents tend to hold higher opinions of their children's strengths than youth hold of themselves.
- More than half of youth with disabilities report being able to tell peers their feelings when peers upset them, and almost two-thirds say they can get adults to listen to them and get information they need.
- Among out-of-school youth who acknowledge that they have a disability or special need, approximately one-third report often providing professionals with feedback on those services.

- Half of youth with disabilities score in the high range on the measures of personal autonomy, and more than 8 in 10 have high scores related to psychological empowerment.
- Receiving instruction in transition planning and youth’s level of participation in the transition planning process are not associated with higher personal autonomy or psychological empowerment scores.

Views of Secondary School

Research has demonstrated that the way youth feel about school can be related to their behavior and performance in school, outside of school, and in the years after leaving school (Albert et al. 2005; Finn 2006; Fredricks and Eccles 2006). However, little research has addressed the perceptions youth with disabilities hold of their experiences in secondary school. NLTS2 addresses this gap in the knowledge base by reporting the perceptions of youth with disabilities regarding academic challenges, interpersonal challenges, school safety, services and supports received at school, affiliation with school, and enjoyment of school.

- On virtually all measures, positive views of school predominate, and strongly negative views are held by a minority of youth with disabilities.
- The majority of youth with disabilities report not finding school particularly hard, and most report having no more than occasional problems completing homework, paying attention, or getting along with teachers or other students.
- Most find school at least “pretty safe,” and most report feeling at least “pretty much” a part of their school.
- Almost half agree “a lot” that they receive the services and supports they need to succeed at school, and the majority report enjoying school at least “pretty much.”
- The most negative views (e.g., having daily problems at school, finding school “very hard,” or not liking or feeling part of school “at all”) are held by 1 percent to 11 percent of youth with disabilities across measures, with one exception—3 in 10 youth with disabilities report they do not become involved at school, even when they have the chance.

Personal Relationships

Personal relationships can be “protective factors” against a variety of adolescent risk behaviors. NLTS2 provides the first opportunity to examine the views reported by youth with disabilities regarding their relationships with their families and friends and with other adults, and the extent to which, despite these relationships, youth report being lonely.

- For the most part, youth with disabilities report having strong, positive relationships with their parents. Parents also are the people youth with disabilities are most likely to turn to for support.
- About half of youth with disabilities report they feel very cared about by friends, and three-fourths say they can find a friend when they need one and can make friends easily. Friends are an important source of support for 4 in 10 youth with disabilities.

- Despite these overall positive findings, a small minority of youth with disabilities report quite negative views of their personal relationships. For example, 3 percent report they feel their parents care about them very little or not at all, and more than twice that percentage say they are paid attention to by their family that little.

Expectations for the Future

NLTS2 has documented the perspectives of 15- through 19-year-olds regarding their future adult roles and their academic, occupational, and independence expectations.

- Most youth expect they will graduate from high school with a regular diploma. They are less confident they will attend a postsecondary school.
- The majority of youth with disabilities expect they will get a paid job, but they are less certain that these jobs will pay enough for them to be financially self-sufficient.
- Most youth think they "definitely" or "probably" will live independently in the future. Among youth who think they will not be able to live independently without supervision, half do not expect to be able to live away from home even with supervision.
- Expectations are related, in that youth who hold high expectations in one domain tend to hold high expectations in other domains.
- Youth tend to hold higher expectations for themselves than their parents hold for them. Despite this difference, parents' and youth's expectations are related to each other in that youth who hold higher expectations for their own futures also tend to have parents who hold higher expectations for them.

Disability Category Differences

Disability category differences are apparent on many of the self-representations examined in this report. Some of the perceptions or views youth report are consistent with the fundamental nature of their disabilities. For example:

- Youth in the other health impairment category, to which youth with attention deficit/hyperactivity disorder as a primary disability typically are assigned, are more likely than those in several other disability categories to report having daily trouble paying attention in school.
- Those with orthopedic impairments are less likely to report having strong athletic or mechanical skills than computer skills.
- Youth with autism, which typically affects the ability to establish relationships with others and engage in daily activities, are less likely than those in most other categories to be involved in activities at school; they also are among the least likely to report they make friends easily or feel cared about by friends "a lot."
- Youth with emotional and/or behavioral challenges often can have relationships in which conflict is common. Consistent with this, reports of infrequently having trouble getting along with others at school and of being cared about by other adults "a lot" are

less common among youth with emotional disturbances than among youth in many other categories.

- Youth with disabilities such as deaf-blindness, visual impairments, or orthopedic impairments are much more likely to report having a disability than youth with learning disabilities or speech/language impairments, for example.

More positive perceptions and expectations are apparent for some categories of youth with disabilities and more negative ones for others. Youth with visual impairments and those with mental retardation illustrate these differences.

- Youth with visual impairments are more likely than those in several other categories to report a strong sense of being able to handle things that come their way and to report rarely or never feeling depressed. They report little trouble getting along with others at school and a strong sense of affiliation with and level of involvement there. They tend to have high self-advocacy skills, confidence in their ability to find a friend, and a strong sense of being cared about by their friends.
- In contrast, compared with youth in several other categories, those with mental retardation are less likely to report there is an adult at school who knows and cares about them. They also are less likely than most categories of youth to be active participants in organized activities at school. Reports of feeling not very or not at all useful, not able to deal well with challenges, and rarely or never enjoying life are more common among youth with mental retardation than among those in most other categories. In addition, reports of feeling hopeful about the future most or all of the time are less common among these youth.

Despite these differences, there are some dimensions on which youth express similar views, regardless of their disability category. For example, there are no statistically significant differences across categories in the percentages of youth who report enjoying life most or all of the time and identifying strongly with a statement that their lives are full of interesting things to do.

Demographic Differences

Differences among youth with disabilities who are distinguished by gender, age, household income, or race/ethnicity are not common. For example:

- There are no differences between demographic groups in their scores on measures of personal autonomy or psychological empowerment or their feelings of competence in expressing their feelings, getting adults to listen to them, or finding information they need.
- Different demographic groups share common views of being cared about by parents, friends, and other adults and being paid attention to by their families.

Some differences are apparent, however:

- Girls are more likely than boys to report being very sensitive to others' feelings, whereas boys are more likely to report being good athletes and having strong mechanical abilities.
- Adolescent girls with disabilities are more likely than boys to say they frequently turn to friends and to siblings for support, as are White youth relative to African American youth with disabilities.
- Youth from middle-income households more frequently turn to friends for support than do those from lower-income households.
- Employed older youth are less likely than younger peers to report turning frequently to their bosses or supervisors for support.
- Older youth are less likely than younger students to participate in activities at school.

Comparisons With the General Population

The picture of youth with disabilities presented in this report is similar to that of youth in the general population on several dimensions. For example:

- Youth with disabilities and those in the general population are about equally likely to report being cared about by parents and actively turning to them and to siblings or a boyfriend or girlfriend for support.
- The two groups also report similar levels of feeling safe at school and are about equally likely to expect to receive a regular high school diploma.

However, in several respects, youth with disabilities express somewhat more negative views, experiences, or expectations than their general-population peers.

- Youth with disabilities are more likely than youth in the general population to report having daily trouble paying attention, completing their homework, and getting along with teachers and students.
- They also are more likely to have little or no sense of affiliation with school and to report strong disagreement that they enjoy school.
- However, youth with disabilities also are more likely to strongly agree that they enjoy school.
- They are less likely than youth in general to expect to attend or complete postsecondary school.
- Regarding their relationships in general, youth with disabilities are more likely than others to report pervasive feelings of loneliness and of being disliked by others, although a minority of youth with disabilities do so.
- Nonetheless, compared with youth in the general population, those with disabilities are more likely to say they receive "a lot" of attention from their families and to report enjoying life and feeling hopeful about the future most or all of the time.

Cautions in Interpreting Findings

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

- The analyses presented in this report are descriptive; none of the findings should be interpreted as implying causal relationship, nor should differences between disability categories be interpreted as reflecting disability differences alone, because of the confounding of disability and other demographic factors.
- The report addresses the “self-representations” of youth with disabilities—i.e., how they describe themselves to others. The extent of discrepancy between the perceptions youth report holding and their “true” views is unknown. “Self-representations” as measured by NLTS2 should not be interpreted as objective assessments of abilities.
- 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 will result in some apparently significant differences, even at this level, being “false positives”—i.e., Type 1 errors. Readers also are cautioned that the meaningfulness of differences reported here cannot be derived from their statistical significance.

Looking Ahead

This report provides the first national picture of the self-representations and expectations of youth with disabilities, how they differ across disability categories and demographic groups, and how they compare with those of youth in the general population. NLTS2 will continue to solicit the views of youth as they age, which will provide information to examine, for instance, how later achievements mesh with expectations and how views might evolve over time.

1. Understanding the Perceptions and Expectations of Youth With Disabilities

A considerable body of research explores the relationships between subjective aspects of youth's experiences—e.g., their attitudes, perceptions, motivation, and self-efficacy—and their achievements in school (e.g., Anderman and Maehr 1994; Anderson, Hattie, and Hamilton 2005; Faircloth and Hamm 2005). Research related to the ability of students to "self-regulate" their learning (Schunk and Zimmerman 1994) considers students to be active participants in the learning process (Pintrich et al. 1986; Schunk and Meece 1992). This research also suggests that students make choices about their own participation and effort, in part on the basis of how they perceive learning tasks, the learning environment, and other participants in it, including teachers and other students (Hadwin et al. 2001; Weinstein and Mayer 1986). Those choices, such as whether to do their homework, in turn help shape their achievements, such as how much they learn and the grades or test scores they receive (Akey 2006; Liu et al. 2006; Tuckman 1999). The role of attitudes and perceptions also has been studied in the context of nonacademic achievements, such as musical and athletic success (Wigfield and Eccles 2002), and as they relate to behaviors outside of school (Manlove 1998) and in the years after leaving school (Bandura et al. 2001; Finn 2006).

A recognition of youth's attitudes as one potentially important ingredient in the successful transition of youth to early adulthood is reflected in the recently released *National Standards and Quality Indicators: Transition Toolkit for Systems Improvement* (National Alliance for Secondary Education and Transition 2005). Standards and indicators for transition support are set forth in five areas, including youth development and leadership, which is defined as "a process that prepares a young person to meet the challenges of adolescence and adulthood and to achieve his or her full potential"; this preparation includes gaining "the ability to analyze one's own strengths and weaknesses, set personal and vocational goals, and have the self-esteem, confidence, motivation, and abilities to carry them out" (p. 8).

The National Longitudinal Transition Study-2 (NLTS2), funded by the National Center for Special Education Research of the Institute of Education Sciences in the U.S. Department of Education, was congressionally mandated in 1997 to provide a national picture of the characteristics, experiences, and outcomes of youth with disabilities as they transition to early adulthood. The many topics addressed in NLTS2 include the "self-representations" (Harter 1999; Repinski 2002) of young people with disabilities; these self-representations are "attributes or characteristics of the self that are consciously acknowledged by the individual through language—that is, how one describes oneself" (Harter 1999, p. 3). Self-representations have been solicited from youth with disabilities regarding themselves, their schooling, their personal relationships, and their hopes for the future. This report presents findings drawn from the first wave of data collected directly from youth on these topics.

Research Questions

In this report, NLTS2 findings are used to address the following questions regarding the self-representations and the expectations of youth with disabilities:

- How do youth with disabilities describe the kind of people they are—their feelings about themselves and their lives, and their skills and competencies?
- How do youth describe their secondary school experiences?
- How do youth characterize their personal relationships?
- What are their reported expectations for the future?
- How do these factors differ for youth with different disability and demographic characteristics?

As context for interpreting the findings related to these questions, the following sections of this chapter provide a brief overview of the NLTS2 design and sample. The data sources relevant to the report are described briefly, as are the characteristics of the youth for whom findings are reported.

Study Overview

NLTS2 is a 10-year-long study of the characteristics, experiences, and outcomes of a nationally representative sample of youth with disabilities who were ages 13 through 16 and receiving special education services in grade 7 or above on December 1, 2000. The study is designed to collect data on sample members from multiple sources in five waves, beginning in 2001 and ending in 2009.[1]

The NLTS2 sample was constructed in two stages.[2] A stratified random sample of school districts was selected from the universe of approximately 12,000 that served students receiving special education in at least one grade from 7th through 12th grades. These districts and 77 state-supported special schools that served primarily students with hearing and vision impairments and multiple disabilities were invited to participate in the study, with the intention of recruiting approximately 500 districts and as many special schools as possible from which to select a target sample of about 12,000 students. Recruitment efforts resulted in 501 school districts and 38 special schools agreeing to participate and providing rosters of students receiving special education services in the designated age range, from which the student sample was selected.

The roster of all students in the NLTS2 age range who were receiving special education services from each district and special school was stratified by primary disability category, as reported by the districts. Students then were selected randomly from each disability category. Sampling fractions were calculated that would produce enough students in each category so that, in the final study year, findings will generalize to most categories individually with an acceptable level of precision, accounting for attrition and for response rates to the parent/youth interview. A total of 11,276 students were selected and eligible to participate in NLTS2.

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[1] Wave 1 included parent interviews (2001) surveys of school staff (2002) and assessments of the academic abilities of students who were ages 16 through 18 in 2002. Wave 2 involved interviews with both parents and youth (2003), a mail survey of youth whose parents reported they were able to respond to questions, but not by phone (2003), school staff surveys for youth still in high school (2004) and assessments of the academic abilities of youth who were ages 16 through 18 in 2004. Wave 3 (2005) repeated the telephone interviews and mail survey of youth, as will Waves 4 and 5 (2007 and 2009). High school transcripts are collected annually for youth leaving school that year.

[2] Appendix A provides additional details on the sample, data sources, and other methodological aspects of the study described here.

Data Sources for Youth With Disabilities

The data sources for self-representations of youth with disabilities are[3]

- a youth telephone interview and mail survey; and
- an in-person interview with youth conducted at the same time as a direct assessment of their academic abilities.

Analyses of youth's self-representations also involve data from

- a parent interview and mail survey; and
- school districts' reports of the primary disability category for which students were provided special education services when selected for the study.

Each data source for youth with disabilities is described briefly below and discussed in greater detail in appendix A.

Youth Self-Representations

The large majority of information reported in this document comes from youth with disabilities themselves in the form of responses to either a telephone interview or a self-administered mail survey, which contained a subset of key items from the telephone interview.[4] Data from the two sources were combined for the majority of analyses reported here. A few additional items come from in-person interviews with youth conducted in conjunction with an assessment of their academic skills.

Youth telephone interview. NLTS2 sample members for whom working telephone numbers and addresses were available (a total of 8,672 youth) were eligible for the Wave 2 parent telephone interview in 2003.[5] After making the initial telephone contact with the parents or guardians (referred to here as parents) of sample members and completing items intended only for adult respondents, parents were asked whether their adolescent children with disabilities were able to respond to questions about their experiences by telephone for themselves. Parents who responded affirmatively and whose sample children were younger than age 18 then were asked to grant permission for their children to be interviewed and told the kinds of questions that would be asked.[6] Parents of youth 18 or older were informed of the kinds of questions that would be

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[3] Table A-1 in appendix A identifies the data source for each variable included in analyses in this report.

[4] Only a subset of items was included in the mail survey because the full set of items was considered too lengthy to be feasible for a mail questionnaire format.

[5] To be eligible, a sample member needed to have a working telephone number or current address. See appendix A for more information on sample eligibility.

[6] Parents were told that interview questions would pertain to "school or work and social activities, as well as a few questions about things like…". For youth younger than 18, the sentence was completed with "[his/her] attitudes and experiences, like ever having been arrested." For youth age 18 or older, the sentence was completed with "[his/her] attitudes and experiences, including smoking, drinking, and ever having been arrested;" items related to these kinds of risk behaviors were asked only of youth ages 18 or older. A total of 164 parents reported that their children could respond to the telephone interview but did not give permission for their children to be interviewed (4 percent of those reportedly able to respond); the interview then continued with the parent and obtained additional information on subjects such as employment and postsecondary education. The parent continuation interview did not include any items addressed in this report; hence, their children are not represented in the findings presented here. Analyses of the disability category distribution and demographic factors of youth who

asked of youth but permission was not requested because youth were no longer minors. Parents of 3,778 youth responded affirmatively to both questions, making their children eligible for a telephone interview. Interviewers obtained contact information for these youth and attempted to complete a telephone interview with them. Telephone interviews were completed with 2,919 youth, 77 percent of the 3,778 who were eligible.[7]

Youth mail survey. If parent respondents to the Wave 2 telephone interview indicated that youth were not able to respond to questions about their experiences for themselves by telephone, interviewers asked whether youth would be able to complete a mail questionnaire. Parents of 860 youth responded positively, making their children eligible for a mail survey.[8] A mailing address was obtained for those sample members, and a questionnaire was sent to the youth. Questionnaires were tailored to the circumstances of individual youth. For example, if a parent indicated in the telephone interview that a youth was employed, the questionnaire for that youth contained a section on employment experiences, which was not included in questionnaires for youth reported not to be employed. Questionnaires were returned for 441 youth, 51 percent of the 860 youth who were eligible.

These two sources yielded data for this report for 3,360 youth, 72 percent of those whom parents reported could respond to questions for themselves by phone or mail.

In-person youth interview. In addition to the telephone interview and mail survey, youth were interviewed in-person at the conclusion of a direct assessment of their academic skills; assessors/interviewers typically were school psychologists or teachers and were recruited in the geographic areas of eligible youth. Because in-person data collection can be labor intensive and costly, the NLTS2 design called for only one assessment and interview per sample member. An assessment/interview was attempted for each NLTS2 sample member for whom a telephone interview or mail questionnaire had been completed by a parent and parental consent for the assessment/interview had been provided; a total of 9,414 youth met these criteria.

Youth were eligible for an assessment/interview during the data collection wave in which they were 16 through 18 years old.[9] This age range was selected to limit the variability in academic performance measured on the direct assessment that could be attributed to differences in the ages of the youth participating and to mesh with the every-2-year data collection cycle of the study. The study design linked the timing of assessments with school data collection (conducted in 2002 and 2004) because most assessments/interviews took place at school. The oldest two single-year age cohorts of youth (i.e., those ages 15 or 16 when sampled) reached the eligible age range in Wave 1 (2002); the younger two cohorts (those ages 13 or 14 when sampled) reached the eligible age range when Wave 2 school data were collected. A total of

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were able to respond and given permission to do so and those who were not permitted to be interviewed reveal no statistically significant or sizable differences between the two groups.

[7] If youth could not be reached by phone or did not return a mailed questionnaire, an attempt was made to recontact the parent and complete the second part of the telephone interview with the parent. Items on self-representations and expectations were not included when the second part of the interview was completed by a parent.

[8] Permission for youth to be sent a mail questionnaire was not asked of parents because that questionnaire did not contain items considered potentially sensitive and because parents' providing a mailing address for the questionnaire was considered to be permission to send it.

[9] Wave 1 assessments also included 10 youth whose assessments were not completed until shortly after their 19th birthdays.

5,222 youth participated in the NLTS2 assessment/interview, including 73 percent of the youth (a total of 2,442) who are the focus of this report.

Although the in-person youth interview covered a variety of topics, this report includes survey items related to friendships (e.g., agreement that the youth can find a friend when he/she needs one) and items related to youth's perceptions of their own personal autonomy, self-realization, and psychological empowerment (Wehmeyer 1997). The latter items were selected by the NLTS2 advisory panel and design team from The Arc's Self-Determination Scale (Wehmeyer 2000); items were selected from among those in the original instrument with the highest factor loading and face validity to reflect the three conceptual domains noted above. Responses to all items are self-reports by youth.

Parent/Guardian Interview/Survey

Chapter 6 compares the expectations youth with disabilities have for their futures in 2003 with expectations their parents held for them in 2001. Parents/guardians of NLTS2 sample members were interviewed by telephone or surveyed by mail[10] in that year, as part of Wave 1 data collection. Ninety-five percent of the youth who are the focus of this report (3,191 youth) also have Wave 1 data regarding their parents' expectations for their future.

School- and School-District-Identified Primary Disability Category

Information about the primary disability category of NLTS2 sample members came from rosters of students in the NLTS2 age range receiving special education services in the 2000-01 school year under the auspices of participating school districts and state-supported special schools.[11]

Data Sources for Comparisons With Youth in the General Population

When similar data items are available, comparisons are made between youth with disabilities and the same-age youth in the general population. Data sources for these comparisons include the following:

- **The National Longitudinal Study of Adolescent Health, Wave II (Add Health).** Comparison data are taken from public-use data sets from this nationally representative study that explores the health-related behaviors of adolescents in grades 7 through 12 and their associations with young adult outcomes. Data at the individual, family, school, and community levels were collected in two waves in 1994 and 1996. The public-use dataset consists of one-half of the core sample Wave 1 and 2 respondents, chosen at random, and one-half of the oversample of African American adolescents with a parent who has a college degree. The total number of respondents in this dataset is approximately 6,500. Comparison analyses include data from Wave 2 (1996) for youth

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[10] In Wave 1, a mail questionnaire containing a subset of telephone interview items was sent to parents who could not be reached by telephone.

[11] The definitions of the 12 primary disability categories used here are defined by law and presented in table A-5, appendix A.

who were 15 through 19 years old, to match the NLTS2 youth sample; approximately 2,650 cases are in this age range (Udry 1998).[12]

- **The National Household Education Survey, 1999 (NHES).** The chief goal of the NHES is to describe Americans' educational experiences across the early childhood to adult age range. To monitor educational trends over time, NHES conducts repeated measurements of the same phenomena in different years. The NHES has also fielded one-time surveys on topics of interest to the Department of Education. The NHES has been conducted in the springs of 1991, 1993, 1995, 1996, 1999, 2001, 2003, and 2005. The most recent data collected from youth themselves are from the 1999 administration; items used here concern perceptions of school and are presented for youth 15 through 19 years old (Nolin et al. 2001). Approximately 3,720 cases are included in this analysis subset.[13]
- **The Shell Poll, 1999.** Peter D. Hart Research Associates conducted this telephone survey as part of an ongoing survey program sponsored by the Shell Oil Company. It included a representative cross section of 1,015 American[14] high-school-age youth drawn from 505 randomly determined localities throughout the country. The overall results of this survey have a margin of error of ±3.1 percent (Shell Oil Company 1999).

Many of the comparisons between data from NLTS2 and these surveys of the general population use identical data items and response categories. Where there are differences in the wording of items and/or response categories, these are pointed out in footnotes.

Youth Included in the Report

The youth who are the focus of this report represent only a subset of youth with disabilities who received special education services in secondary school in 2001, not the entire population. The full population to which the NLTS2 sample generalizes is a cohort of youth who were ages 13 through 16 and received special education services in grade 7 or above in participating schools and school districts as of December 1, 2000. Weights for analyses reported in this document are calculated so that all youth who responded for themselves to a telephone interview or completed a mail questionnaire generalize to the subset of that cohort who would be capable of responding for themselves. To illustrate, consider the following groups:

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[12] For additional information on Add Health, see http://www.cpc.unc.edu/addhealth.

[13] For additional information on NHES 1999, see http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000079.

[14] Alaska and Hawaii were excluded from the sample.

A = The entire NLTS2 sample.

A1 = The portion of A for whom no contact was attempted because parents stated that youth were unable to respond to an interview or complete a questionnaire. This also includes youth known to be deceased.

A2 = The portion of A for whom contact was attempted by telephone or mail survey because their parents stated they were capable of responding and, in the case of telephone interviews for youth younger than 18, gave consent for an interview.

For each of these sample groups, there is a corresponding group in the universe, which can be denoted with a “B,” such that the universe is B, the portion of the universe whose parents would state that they are unable to respond (had they been included in the sample) is denoted B1, and the remaining portion is denoted B2. The sizes of these universe subgroups can be estimated by weighting all youth in A (as if they all had been respondents) up to the entire universe, B. Then the sum of the weights of all youth in A, A1, and A2 are estimates of the number of youth in B, B1, and B2.

However, not all youth in A2 were interviewed or completed a questionnaire. Let those who did respond be labeled A2r. Weights were computed (adjusting for various youth and school characteristics used as stratifying or post-stratifying variables) that project A2r up to B2. Thus the youth survey weights for A2 respondents project to the portion of the universe (B2) for whom interviews would be attempted if all individuals in the universe had participated in NLTS2.

The subgroup of youth who could respond for themselves differ in several ways from those whose parents indicated they were unable to respond. Appendix B provides detailed information regarding differences between these groups, examples of which are summarized briefly here.

The disability profiles of the group of youth who responded for themselves do not differ significantly from the profiles of those whose parents were interview respondents. Youth respondents are more likely than youth whose parents were respondents to have high self-care skills (96 percent vs. 90 percent, $p < .01$), but these two groups do not differ significantly in their functional cognitive skills or social skills. Youth respondents also are less likely to have trouble communicating (26 percent vs. 43 percent, $p < .001$), understanding language (30 percent vs. 43 percent, $p < .01$), and using their arms and hands for fine motor activities (4 percent vs. 11 percent, $p < .01$). Consistent with these differences, they also are less likely to have a disability identified in their first year of life (13 percent vs. 25 percent, $p < .01$), although there is no significant difference in their rate of receiving special education services their first years in school.

Differences in youth’s services are apparent. For example, youth who were not their own respondents were more likely to receive a several related and support services (e.g., occupational therapy and transportation services).

No significant demographic differences or differences in youth’s instructional programs between the two respondent groups are apparent.

Analysis Approaches

Analyses reported in this document involve simple descriptive statistics (e.g., percentages, means), bivariate relationships (i.e., cross-tabulations), and correlations. All statistics are weighted to be representative of a larger population of students (as discussed earlier). These analysis approaches exclude cases with missing values; no imputation of missing values has been conducted.

Statistical tests examining differences between independent subgroups or between responses to different items given by the same group that involve categorical variables with more than two possible response categories were conducted by treating each of the possible response categories as separate dichotomous items. For example, each of the three possible response categories of "very much like me," "a little like me," and "not at all like me" was treated as a separate dichotomous item. The percentages of youth who gave each response were then compared across disability or demographic groups or across different questionnaire/interview items. This approach, rather than using scale scores (e.g., the average response for a disability group on a 3-point scale created by assigning values of 1 through 3 to the three response categories), was adopted for two reasons: the proper scaling for the response categories was not apparent, and it was felt that reporting differences in percentages responding in each of the response categories would be more meaningful and easier to interpret by readers than reporting differences in mean values.

Rather than test for differences between all independent subgroups (e.g., youth in different disability categories) simultaneously (e.g., using a *k* x 2 chi-square test of homogeneity of distribution, where *k* is the number of disability groups), the statistical significance of differences between selected pairs of independent subgroups is tested. This approach has been followed because the intent is to identify significant differences between specific groups (e.g., youth with learning disabilities are significantly more likely than those with mental retardation to report that they are cared for "a lot" by parents), rather than to identify a more general "disability effect" (e.g., the observed distribution across disability categories differs significantly from what would be expected from the marginal distributions) for the variable of interest.

The test statistic used to compare Bernoullian-distributed responses (i.e., responses that can be allocated into one of two categories and coded as 0 or 1) for two independent subgroups is analogous to a chi-square test for equality of distribution (Conover 1971) and approximately follows a chi-square distribution with one degree of freedom. However, because the test statistic itself is more similar in form to the square of a two sample *t* statistic with unequal variances[15]

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[15] In the case of unweighted data, comparing two percentages is usually accomplished using nonparametric statistics, such as the Fisher exact test. In the case of NLTS2, the data are weighted, and the usual nonparametric tests would yield significance levels that are too small, because the NLTS2 effective sample size is less than the nominal sample size. The *p* values for the test statistic used as an alternative approach to determine statistical significance are derived from an *F*(1, infinity) distribution (i.e., a chi-square distribution with one degree of freedom). To test for the equality between the mean values of the responses to a single survey item in two disjoint subpopulations, we begin by computing a ratio where the numerator is the difference of the sample means for those subpopulations. (In the case of Bernoulli variables, each mean is a weighted percentage). The denominator for the ratio is the estimated standard error of the numerator (i.e., the square root of the sum of squares of the estimated standard errors for the two means in the numerator). This test statistic is essentially equivalent to a two-sample *t* test for independent samples (Welch 1947) using weighted data. Sample sizes (and consequently degrees of freedom) for these student *t* types of ratios are typically reasonably large (i.e., never fewer than 30 in each

(Satterthwaite 1946), and because a chi-square distribution with one degree of freedom is the same as an *F* distribution with one degree of freedom in the numerator and infinite degrees of freedom in the denominator (Johnson and Kotz 1970), this statistic can be considered the same as an *F* value; it also can be considered "χ^2".

Tests also were conducted to examine differences in the rates at which youth with disabilities as a whole provided specific kinds of self-representations (for example, the percentage of youth who report relying on parents for support "a lot" compared with the percentage who rely on friends "a lot") using an analogous one-sample statistic based on difference scores.[16] The test statistic follows a chi-square distribution with one degree of freedom for sample sizes larger than 30, and for similar reasons to those cited above, is considered roughly equivalent to an *F*(1, infinity) distribution.

In contrast to the dichotomous approach used in statistical tests examining differences in specific responses given by subgroups or across items by the same group, correlations were calculated by comparing responses on a scale that reflects the number of response category options. For example, a 4-point scale was created for variables with response categories related to youth's perceptions of their strengths of "very good, (4 points)" "pretty good," "not very good," or "not at all good" (1 point).

Technical Notes

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

- **Purpose of the report.** The purpose of this report is descriptive; as a nonexperimental study, NLTS2 does not provide data that can be used to address causal questions. The descriptions provided in this document concern the self-reported perceptions of youth. No attempt is made to "validate" these self-perceptions with information on youth's understanding of the survey items or with direct assessments of students' abilities or behaviors. Further, the report does not attempt to explain why youth responded as they did or why youth in different subgroups (e.g., disability categories) differ in their responses.
- **Subgroups reported.** In each chapter, the descriptive findings regarding youth's self-representations are reported for the full sample of youth; those findings are heavily influenced by information provided by youth with learning disabilities, who constitute

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group), so the ratio follows by the Central Limit Theorem (Wilks 1962), an approximate normal distribution. For a two-tailed test, the test statistic is the square of the ratio, which then follows an approximate chi-square distribution with one degree of freedom. Because a chi-square distribution with one degree of freedom is the same as an *F* distribution with one degree of freedom in the numerator and an infinite number of degrees in the denominator, the test statistic approximately follows an *F*(1, infinity) distribution.

[16] Testing for the significance of differences in responses to two survey items for the same individuals involves identifying for each youth the pattern of response to the two items. Responses to each item (e.g., the youth reported relying "a lot" on parents for support—yes or no—and reported relying on friends "a lot" for support—yes or no) are scored as 0 or 1, producing difference values for individual students of +1 (responded affirmatively to the first item but not the second), 0 (responded affirmatively to both or neither item), or -1 (responded affirmatively to the second item but not the first). The test statistic is the square of a ratio, where the numerator of the ratio is the weighted mean change score and the denominator is an estimate of the standard error of that mean. Since the ratio approaches a normal distribution by the Central Limit Theorem, this test statistic approximately follows a chi-square distribution with one degree of freedom, that is, an *F*(1, infinity) distribution.

63 percent of the weighted sample (see appendix B). Youth with mental retardation, emotional disturbances, or other health impairments, and speech/language impairments constitute 12 percent, 12 percent, 5 percent, and 4 percent of the weighted sample, respectively. The other seven categories together make up less than 6 percent of the weighted sample. Findings then are reported separately for youth in each federal special education disability category. Comparisons also were conducted between groups of youth who differed with respect to age, 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, as well as being distributed differently across disability categories (e.g., youth in the category of mental retardation are disproportionately likely to be African American, and those in the other health impairment category are disproportionately likely to be White, relative to the general population; see appendix B table B-5, for percentage of youth within each disability category, by demographic characteristics).[17]

- **Findings are weighted.** NLTS2 was designed to provide a national picture of the characteristics, experiences, and achievements of youth with disabilities in the NLTS2 age range as they transition to young adulthood. Therefore, all the statistics presented in this report are weighted estimates of the national population of students receiving special education in the NLTS2 age group who could describe their own perspectives, and of each disability category individually.
- **Standard errors.** For each mean and percentage in this report, a standard error is presented that indicates the precision of the estimate. For example, a variable with a weighted estimated value of 50 percent and a standard error of 2.00 means that the value for the total population, if it had been measured, would, with 95 percent confidence, lie between 46 percent and 54 percent (i.e., within plus or minus 1.96 x 2 percentage points of 50 percent). Thus, smaller standard errors allow for greater confidence to be placed in the estimate, whereas larger ones require caution.
- **Small samples.** Although NLTS2 data are weighted to represent the population, the size of standard errors is influenced heavily by the actual number of youth in a given group (e.g., a disability category). In fact, findings are not reported separately for groups that do not include at least 30 sample members because groups with very small samples have comparatively large standard errors. For example, because there are relatively few youth with deaf-blindness, estimates for that group have relatively large standard errors. Therefore, readers should be cautious in interpreting results for this group and others with small sample sizes and large standard errors.
- **Significant differences.** A large number of statistical analyses were conducted and are presented in this report. Since no explicit adjustments were made for multiple comparisons, the likelihood of finding at least one statistically significant difference when no difference exists in the population is substantially larger than the Type 1 error

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[17] See Wagner, Marder, Levine, et al. (2003) for relationships of demographic factors and disability categories for the full NLTS2 sample.

> for each individual analysis. This may be particularly true when many of the variables on which the groups are being compared are measures of the same or similar constructs, as is the case in this report. To partially compensate for the number of analyses that were conducted, we used a relatively conservative *p* value of .01. The text mentions only differences that reach a level of statistical significance of at least $p < .01$. If no level of statistical significance is reported, the group differences described do not attain the $p < .01$ level of statistical significance. Readers also are cautioned that the meaningfulness of differences reported here cannot be inferred from their statistical significance.

Organization of the Report

Chapter 2 presents “self-descriptions” (Harter 1999, p. 3) of youth with disabilities regarding themselves and their lives—i.e., “who I am” and “how I feel.” Chapter 3 presents “self-evaluations” of youth’s competencies—i.e., “how good I am”—(Harter 1999, p. 3) in several domains. Chapter 4 provides findings regarding the views youth with disabilities have of their schooling, including academic challenges, relationships with adults and other students, school safety, and services and supports provided. Youth’s personal relationships are the focus of chapter 5. Chapter 6 describes the expectations youth with disabilities hold for their futures and compares them with expectations held for them by their parents. Chapter 7 summarizes key points from the report. Appendix A details the sample design and sample weighting strategies, sources of data for variables used in the analyses, and analysis approaches. Appendix B reports comparisons of youth respondents and youth for whom parents responded and examines the distribution of demographic characteristics across disability categories for youth included in this report.

2. Youth With Disabilities' Views of Themselves and Their Lives

Adolescence is a time of rapid development physically, psychologically, and emotionally (Erikson 1968; Harter 1990). Along with the maturational changes during this developmental period comes a heightened awareness of self that often focuses on individuality, personal identity, and fitting into the social mainstream (Damon and Hart 1988; Draper and Belsky 1990; Levine and Wagner 2005; Peetsma et al. 2005). Adolescents' views of themselves and their lives "serve to shape goals…and to provide self-guides that aid in appropriate social behavior and self-regulation" (Harter 1999, p. 2).

This chapter addresses the "self-descriptions" (Harter 1999, p. 3) of youth with disabilities—how they represent to others via interview or survey both "who I am" and "how I feel" about various aspects of self and life. To ascertain their self-descriptions, youth with disabilities were asked their views about their personal attributes and their feelings about positive and negative aspects of themselves and their lives. This chapter presents findings regarding these kinds of self-descriptions for youth with disabilities[1] as a whole and for those who differ in disability category and, when statistically significant, age, gender, household income, and race/ethnicity.

"Who I Am" Self-Descriptions

Youth with disabilities were asked to communicate their self-descriptions related to six attributes—being a nice person, being able to handle challenges, having a sense of humor, being sensitive to others' feelings, being well organized, and having a disability. They were asked to report on a 3-point scale whether being a nice person and being able to handle most things that come their way is "very much like [them]" (3 points), "a little like [them]," or "not at all like [them]" (1 point), and on a 4-point scale whether they thought they were "very good" (4 points), "pretty good," "not very good," or "not at all good" (1 point) at having a sense of humor, being sensitive to others, and being well organized.

Youth with disabilities report higher estimations of some attributes than others. Most youth report viewing themselves as being nice; 83 percent state that being a nice person is "very much" like them, and fewer than 1 percent report that being a nice person is "not at all" like them (figure 1). Youth are more likely to give high ratings to themselves for being a nice person than to appraise other self attributes so positively ($p < .001$ for all comparisons). Almost two-thirds (64 percent) describe themselves as being very able to handle most challenges that come their way. They are more likely to give high ratings to their ability to handle challenges than to having a sense of humor, being sensitive, or being well organized ($p < .001$ for all comparisons). Slightly more than half (51 percent) assert they have a "very good" sense of humor, with an additional 42 percent stating they have a "pretty good" sense of humor. Youth are more likely to describe themselves as having a very good sense of humor than to describe themselves as being very sensitive or well organized ($p < .001$ both comparisons). Forty-one percent report a "very

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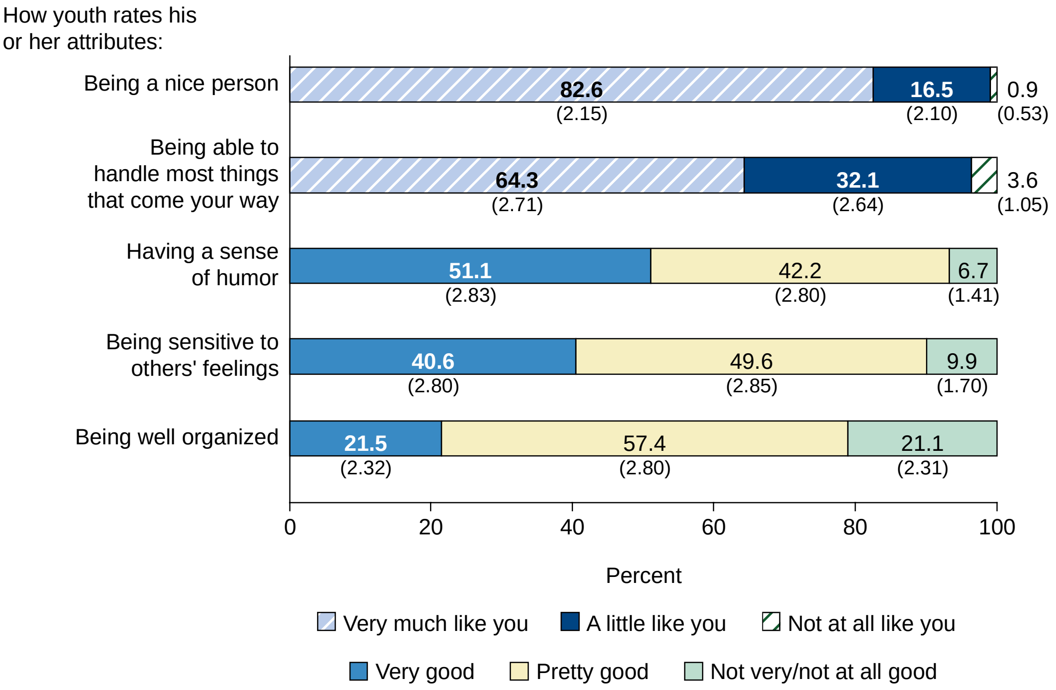
[1] Readers are reminded that findings are national estimates for the subsample of youth with disabilities who could report their own perceptions and expectations, not a sample of all youth with disabilities in the NLTS2 age range. See chapter 1 for further details on the group that is the focus of this report.

good" sensitivity to others' feelings, whereas one-quarter (22 percent) describe themselves as "very good" at being well organized ($p < .001$).

When values on the response scales for each attribute were correlated, youth who describe themselves more positively with regard to one aspect of their personality are more likely to report being positive about other aspects. For example, youth who describe themselves as being able to handle most things also are more likely to state that they have a good sense of humor $r = .21$ ($p < .001$). Correlations between the various self-attributes range from $r = .09$ ($p < .001$) for the relationship between responses to being a nice person and being well organized to $r = .26$ ($p < .001$) for responses related to being sensitive to others' feelings and being a nice person.

Figure 1. Youth with disabilities' reported perceptions of self attributes



NOTE: Response categories "not very good" and" not at all good" have been collapsed for reporting purposes. Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Parents of youth included in this report were asked to share their perceptions of their children, using the same 4-point scale in three of these areas: having a sense of humor, being sensitive to others, and being well organized. Ratings do not differ significantly between parents and youth for these attributes, including having a sense of humor (59 percent "very good" vs. 51 percent), being sensitive to others' feelings (50 percent vs. 41 percent), or being well organized (19 percent vs. 22 percent). In addition, parents' and youth's perceptions are related to each other in that youth who hold higher estimates of their abilities tend to have parents who also hold high estimates of the youth's abilities. Correlations of parents' and youth's scale scores regarding perceptions range from $r = .18$ ($p < .001$) for ratings related to having a sense of humor, $r = .20$ ($p < .001$) for ratings related to being sensitive to others, and $r = .39$ ($p < .001$) for being well organized.

Beyond the perceptions of the types of attributes shared by all youth, those with disabilities have views about their disability. To explore whether youth consider themselves to have a disability, youth were read the statement “Some people have a disability or special need that makes it hard for them to do some things” and then were asked, “Do you consider yourself to have any kind of disability or special need?” Fewer than one-third (32 percent) of those who had received special education services when they were ages 13 through 16 describe themselves as having a disability or special need when they are 15 through 19 years old.

“How I Feel” Self-Descriptions

In addition to self-perceptions related to “who I am” types of attributes, youth with disabilities were asked to share their feelings about both positive and negative aspects of themselves and their lives.

Positive Aspects

Youth with disabilities were asked to report their self-descriptions related to three positive aspects of their lives—being proud of who they are, that life is full of interesting things to do, and feeling useful and important—on a 3-point scale: “very much like you” (3 points), “a little like you,” or “not at all like you” (1 point). Two aspects—enjoying life and feeling hopeful about the future—are reported on a 4-point scale: “most or all of the time” (4 points), “a lot of the time,” “sometimes,” or “rarely/never” (1 point).

Approximately three-quarters of youth with disabilities report feeling proud of who they are (73 percent), and fewer than 1 percent report that this attribute is “not at all” like them (figure 2). Three of five strongly state that they feel that life is full of interesting things to do, and fewer than 7 percent state that life is “not at all” interesting. More than half (59 percent) respond that the statement “you feel useful and important” is “very much” like them, although almost 1 of 10 (9 percent) report that feeling useful and important is “not at all” like them.

When youth were asked how frequently in the previous week they felt they enjoyed life, more than half (58 percent) of those with disabilities stated they enjoyed life “most or all of the time,” and approximately 95 percent reported enjoying life at least sometimes. Youth with disabilities are 12 percentage points more likely than those in the general population to report that they enjoy life “most or all” of the time (58 percent vs. 46 percent, $p < .001$).[2] Feelings of “rarely or never” or only “sometimes” enjoying life do not differ for youth with disabilities and those in the general population.

Many also describe themselves as being hopeful about the future, with 41 percent reporting they are hopeful about the future “most or all of the time” and an additional 23 percent reporting being hopeful “a lot of the time.” In contrast, 12 percent report “rarely or never” feeling hopeful about the future. Youth with disabilities are more likely than their peers in the general population

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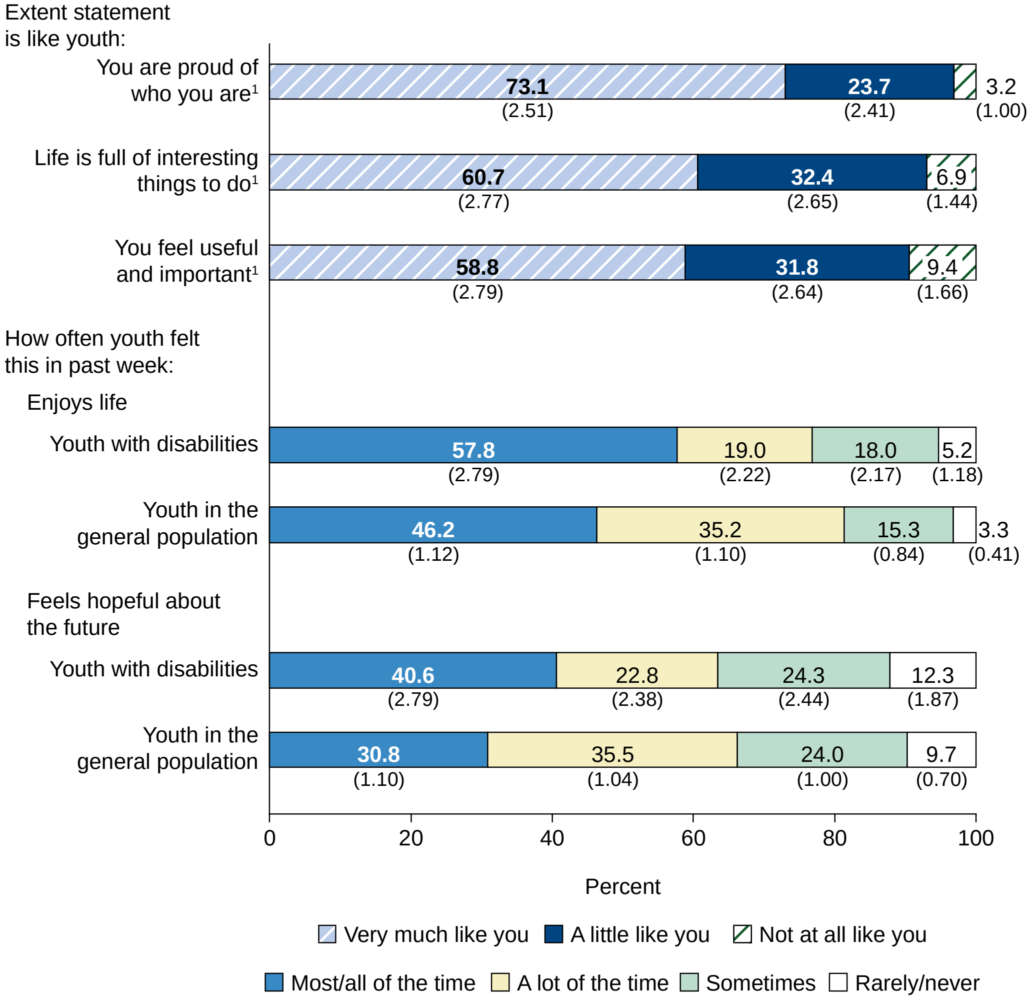
[2] All comparisons with youth in the general population included in this chapter are calculated for 15- through 19-year-olds using data from Wave II youth interviews of The National Longitudinal Study of Adolescent Health (Add Health), 1996 (Udry 1998). Items in the NLTS2 and Add Health instruments are identical in wording and response options.

to state they are hopeful “most or all of the time” (41 percent vs. 31 percent, $p < .01$). Youth with disabilities and those in the general population do not differ in their rate of reporting “rarely or never” feeling hopeful about the future. However, those with disabilities tend to be less positive in their descriptions of feelings about the future than about other aspects of their lives. They are less likely to report frequently feeling hopeful about the future than to describe themselves as feeling very proud or useful, or to assert that they frequently feel life is interesting or enjoyable ($p < .001$ for all comparisons with hopeful about the future).

Figure 2. Youth with disabilities’ reported feelings about positive aspects of self and life



[1] Comparison data are not available for youth in the general population.

NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; National Institute of Child Health and Human Development, The National Longitudinal Study of Adolescent Health (Add Health), Wave II youth interviews, 1996.

Youth who report feeling positive about one aspect of their life tend to be more positive about others; the same relationship holds for less positive feelings. For example, youth who assert they are proud of who they are, are more likely also to state they feel useful and important

$r = .37$ ($p < .001$). Values on the response scales for each positive aspect of life are correlated, producing correlation coefficients that range from $r = .24$ ($p < .001$) for the relationship between feeling useful and important and feeling hopeful about the future, to $r = .38$ ($p < .001$) for the relationship between feeling useful and important and feeling that life is full of interesting things to do.

Negative Aspects

Switching the focus to negative feelings, youth were asked to report on a 4-point scale whether they felt depressed, lonely, or disliked "most or all of the time" (4 points), "a lot of the time," "sometimes," or "rarely or never" (1 point). Youth with disabilities are less likely to report negative than positive perceptions of life (figures 2 and 3). For example, 5 percent report feeling depressed "most or all of the time" during the prior week, and 4 percent report feeling depressed "a lot of the time" during the week. These percentages are significantly lower than the percentages of youth who report enjoying life "most or all of the time" during the preceding week (58 percent) or who report that feeling that life is full of interesting things to do is "very much" like them (61 percent; $p < .001$ for all comparisons).

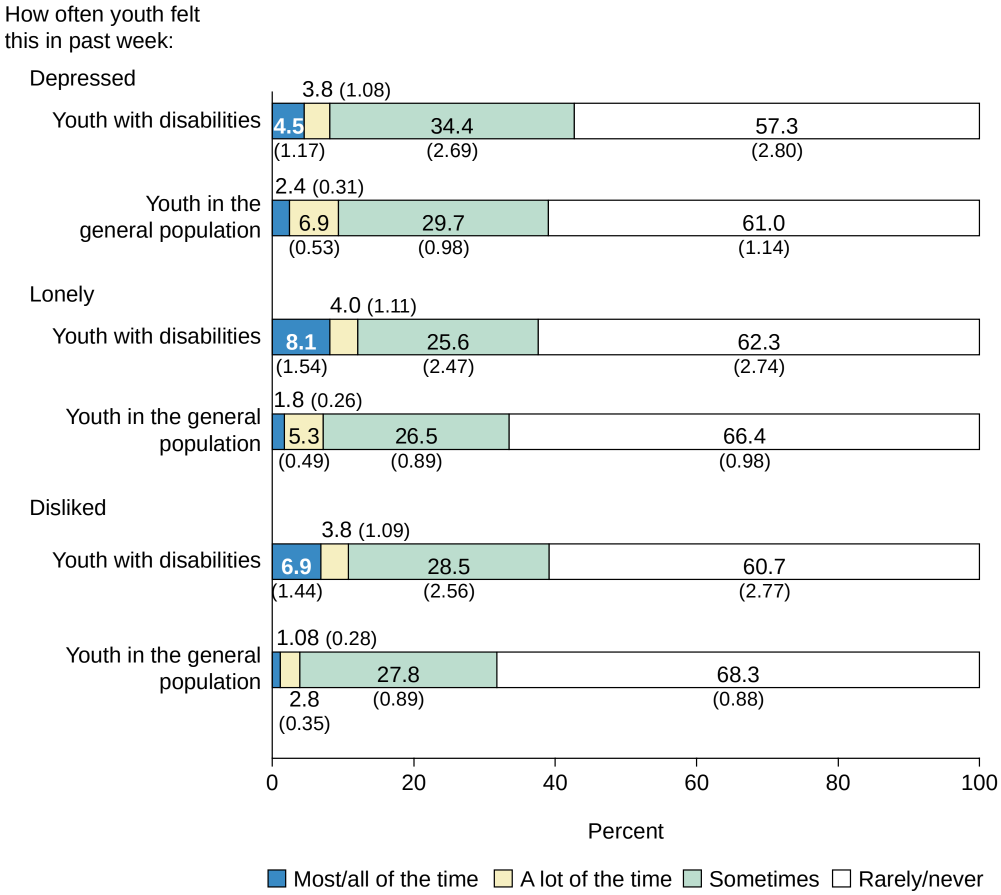
Whereas 58 percent report "rarely or never" feeling depressed in a given week, approximately one-third (34 percent) report feeling depressed "sometimes." When focusing on the two ends of the frequency spectrum—in the prior week feeling depressed "most or all of the time" or "rarely or never"—youth with disabilities and their peers in the general population do not differ significantly. However, youth with disabilities are less likely than their peers to say they are depressed "a lot of the time" (4 percent vs. 7 percent, $p < .01$).

About 6 in 10 youth with disabilities (62 percent) indicate "never" or "rarely" feeling lonely during the previous week, with most of the remaining youth (26 percent) feeling lonely "sometimes"; these percentages are not statistically significantly different from percentages for youth in the general population. However, youth with disabilities are significantly more likely than general-population peers to report feeling lonely "most or all of the time" (8 percent vs. 2 percent, $p < .001$).

Feelings of being disliked are about as prevalent among youth with disabilities as feelings of being lonely or depressed. Sixty-one percent report they "rarely" or "never" felt disliked in the previous week, and 29 percent report feeling that way "sometimes." The extent to which youth with disabilities report feeling disliked differs significantly from that of youth in the general population, among whom fewer report feeling disliked "most or all of the time" (1 percent vs. 7 percent, $p < .001$).

Similar to the relationship reported earlier for positive aspects of their lives, correlations between youths' responses to negative items were statistically significant. Those who report they frequently are depressed also are likely to report frequently feeling lonely $r = .46$ ($p < .001$) or disliked $r = .38$ ($p < .001$), and youth who state feeling that others dislike them also are more likely to report feeling lonely $r = .39$ ($p < .001$).

Figure 3. Youth with disabilities' reported feelings about negative aspects of self and life



NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; National Institute of Child Health and Human Development, The National Longitudinal Study of Adolescent Health (Add Health), Wave II youth interviews, 1996.

Self-Realization Scale

To obtain a broader picture of youth with disabilities' self-descriptions and perceptions of their lives, NLTS2 asked youth to report in an in-person interview[3] the extent to which their behavior reflects skills associated with the self-realization subscale of The Arc's Self-Determination Scale (Wehmeyer 1997). Items in this subscale were selected from those in the original instrument with the highest factor loading and face validity to reflect the self-realization domain. Responses to all items are self-reports by youth.

According to Wehmeyer (1997), self-knowledge and self-understanding form through experiences in one's environment, influences from significant others, and reinforcement of one's

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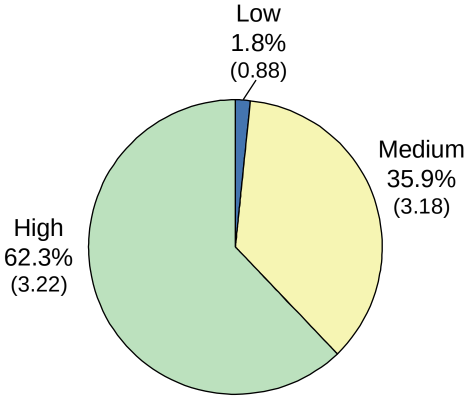
[3] Although the in-person interview was conducted with all youth for whom a direct assessment of academic skills was completed, responses are included here only for the subsample of youth who were able to respond for themselves to the Wave 2 telephone interview or mail survey.

Figure 4. Self-realization scale scores



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

behavior. Items included in the self-realization subscale[4] assess how youth perceive their strengths, limitations, and confidence in their abilities and interactions with others.

On each item, youth's self-realization is measured on a 4-point scale ranging from "never agree" to "always agree" with a series of statements. A summative scale of self-realization ranges from 5 (all responses "never agree") to 20 (all responses "always agree") and are reported as low (5 to 9), medium (10 to 15), and high (16 to 20) (figure 4). Nearly all youth score in the medium (36 percent) or high range (62 percent).

Disability Category Differences in Self-Descriptons and Life Descriptions

Youth's self-reported perceptions of their attributes and their lives differ somewhat across disability categories.

"Who I Am" Self-Descriptions

Disability category differences are apparent for self-reported perceptions of some attributes. Youth with emotional disturbances are less likely to feel that being a nice person is "very much" like them (78 percent) than are those with orthopedic impairments (92 percent, $p < .01$; table 1). When asked their perceptions related to being a person who can handle challenges, youth with visual impairments are more likely to think of themselves as being "very much" someone who can handle what comes their way (73 percent), compared with 39 percent of those with autism ($p < .001$). Conversely, 8 percent of those with other health impairments consider themselves to be "not at all" able to deal with life's challenges, compared with fewer than 1 percent of youth with visual impairments ($p < .01$).

Youth do not differ significantly by disability category in their reporting of having a sense of humor or being sensitive to others' feelings. Ratings of having a "very good" sense of humor range from 41 percent for youth with autism to 59 percent of those with deaf-blindness, and "very good" ratings related to being sensitive to others range from 37 percent of youth with other health impairments to 54 percent of youth with deaf-blindness. However, youth with mental retardation are more likely to assess their organizational skills as "very good" (34 percent) than are those with speech/language impairments (19 percent, $p < .01$) or other health impairments (16 percent, $p < .01$).

Within each disability category, youth appraise their skills and abilities as being stronger in some areas than others. For example, youth with learning disabilities are more likely to report considering themselves to be a nice person (83 percent) or able to handle challenges (67 percent)

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[4] Self-realization items include: I can like people even if I don't agree with them; I know what I do best; I like myself; I know how to make up for my limitations; and I am confident in my abilities.

Table 1. Youth with disabilities' reported perceptions of self attributes, by disability category

Extent statement is like youth	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
You are a nice person												
Very much like you	83.0	85.7	82.3	77.5	82.2	90.4	92.1	83.0	81.4	80.1	87.7	89.8
	(3.20)	(3.12)	(4.42)	(3.88)	(4.70)	(3.72)	(3.10)	(3.53)	(5.69)	(7.19)	(4.87)	(5.46)
A little like you	17.0	14.2	14.8	18.7	17.8	7.9	7.6	16.1	16.5	19.5	12.0	10.2
	(3.20)	(3.11)	(4.11)	(3.62)	(4.70)	(3.40)	(3.05)	(3.45)	(5.43)	(7.13)	(4.82)	(5.46)
Not at all like you	0.1	0.1	3.0	3.7	‡	1.7	0.3	0.9	2.0	0.5	0.3	‡
	(0.27)	(0.28)	(1.98)	(1.75)		(1.63)	(0.63)	(0.89)	(2.05)	(1.27)	(0.81)	
You can handle things that come your way												
Very much like you	66.6	60.6	53.3	68.3	66.3	73.3	63.8	59.4	39.4	62.9	55.6	57.5
	(4.01)	(4.36)	(5.82)	(4.29)	(5.80)	(5.60)	(5.51)	(4.61)	(7.24)	(8.73)	(7.41)	(9.02)
A little like you	31.2	36.1	39.1	26.9	30.8	26.2	34.0	32.2	53.4	35.7	34.3	40.4
	(3.94)	(4.29)	(5.69)	(4.09)	(5.67)	(5.57)	(5.44)	(4.39)	(7.40)	(8.66)	(7.08)	(8.95)
Not at all like you	2.2	3.3	7.7	4.7	2.9	0.4	2.2	8.4	7.3	1.4	10.1	2.1
	(1.25)	(1.59)	(3.11)	(1.95)	(2.06)	(0.80)	(1.68)	(2.60)	(3.86)	(2.12)	(4.49)	(2.62)
How youth rates his or her attribute:												
Having a sense of humor												
Very good	50.5	46.7	51.3	57.7	43.0	56.0	50.1	48.3	41.2	46.4	55.8	58.5
	(4.25)	(4.46)	(5.83)	(4.56)	(6.08)	(6.28)	(5.74)	(4.68)	(7.21)	(9.02)	(7.50)	(8.89)
Pretty good	44.4	46.4	35.4	34.5	43.8	41.2	44.2	45.7	50.6	51.1	33.0	31.0
	(4.22)	(4.46)	(5.58)	(4.38)	(6.09)	(6.22)	(5.70)	(4.66)	(7.32)	(9.04)	(7.10)	(8.35)
Not very or not at all good	5.1	6.8	13.2	7.9	13.2	2.7	5.7	5.9	8.1	2.4	11.1	10.5
	(1.88)	(2.26)	(3.95)	(2.48)	(4.16)	(2.05)	(2.67)	(2.21)	(4.00)	(2.78)	(4.75)	(5.53)
Being sensitive to others' feelings												
Very good	40.2	38.3	45.1	38.6	41.6	50.5	46.8	37.2	39.6	48.3	42.7	53.9
	(4.18)	(4.33)	(5.75)	(4.54)	(6.08)	(6.30)	(5.73)	(4.55)	(7.22)	(9.02)	(7.34)	(9.00)
Pretty good	51.7	51.3	42.6	44.6	46.8	42.5	44.7	55.3	43.4	38.5	41.3	40.0
	(4.26)	(4.45)	(5.71)	(4.64)	(6.15)	(6.23)	(5.71)	(4.68)	(7.32)	(8.78)	(7.30)	(8.84)
Not very or not at all good	8.2	10.3	12.3	16.8	11.6	6.9	8.5	7.6	17.0	13.1	16.0	6.1
	(2.33)	(2.71)	(3.80)	(3.49)	(3.94)	(3.20)	(3.20)	(2.49)	(5.55)	(6.09)	(5.44)	(4.33)
Being well organized												
Very good	18.6	18.9	33.7	25.9	30.3	22.1	21.0	16.4	22.6	18.3	30.2	16.5
	(3.31)	(3.49)	(5.51)	(4.05)	(5.64)	(5.22)	(4.66)	(3.47)	(6.16)	(6.96)	(6.83)	(6.70)
Pretty good	60.6	63.7	51.7	50.5	52.2	61.4	46.7	50.5	39.3	58.7	44.9	51.7
	(4.15)	(4.28)	(5.82)	(4.63)	(6.13)	(6.13)	(5.71)	(4.68)	(7.20)	(8.87)	(7.40)	(9.02)
Not very or not at all good	20.7	17.5	14.6	23.6	17.5	16.5	32.4	33.1	38.1	23.0	24.9	31.9
	(3.45)	(3.38)	(4.11)	(3.93)	(4.67)	(4.67)	(5.36)	(4.41)	(7.16)	(7.58)	(6.43)	(8.41)

‡ Responses for items with fewer than 30 respondents are not reported.

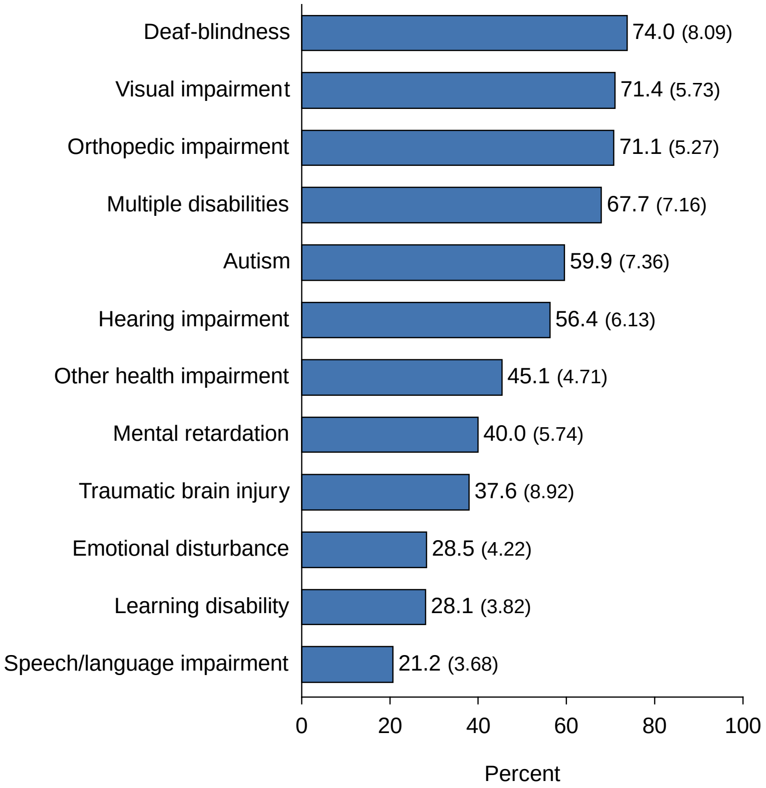
NOTE: Response categories "not very good" and "not at all good" have been collapsed for reporting purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

than to give high ratings to their ability to be sensitive to others (40 percent, $p < .001$ for both comparisons) or be well organized (19 percent, $p < .001$ for both comparisons).

Identifying oneself as an individual with a disability is more common for youth with some kinds of disabilities than others, although there are at least a quarter of youth in every disability category who report that they do not consider themselves to have a disability. Percentages of youth identifying themselves as having a disability range from 21 percent of those with speech/language impairments to 74 percent of those with deaf-blindness (figure 5). Approximately one in five youth with speech/language impairments consider themselves to have a disability (21 percent), significantly fewer than those in 8 of the 11 other disability categories—deaf-blindness (74 percent), visual impairment (71 percent), orthopedic impairment (71 percent), multiple disabilities (68 percent), autism (60 percent), hearing impairment (56 percent), other health impairment (45 percent), and mental retardation (40 percent; $p < .001$ for all comparisons other than with mental retardation, $p < .01$). Similarly, youth with learning disabilities are significantly less likely to report they have a disability or special need (28 percent) than are those in seven other disability categories (deaf-blindness, visual impairment, orthopedic impairment, multiple disabilities, autism, and hearing or other health impairment; $p < .001$ for all comparisons other than with other health impairment, $p < .01$). Youth with emotional disturbances are less likely to identify themselves as having a disability (29 percent) than youth with other health impairments (45 percent, $p < .01$) or autism (60 percent, $p < .001$).

Figure 5. Youth's self-reports of a disability, by disability category



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

“How I Feel” Self-Descriptions

Youth’s descriptions of their feelings about themselves and their lives—particularly in responses to questions about negative feelings—vary somewhat by disability category.

Positive aspects. Youth do not differ significantly by disability category in their reports related to feeling proud of themselves. The proportions of youth who report that the statement “you are proud of who you are” is “very much” like them range from 66 percent of youth with autism to 82 percent of those with visual impairments (table 2).

Table 2. Youth with disabilities’ reported feelings about positive aspects of self and life, by disability category

Extent statement is like youth	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
You are proud of who you are												
Very much like you	73.9	73.6	71.7	70.2	75.7	81.6	77.1	66.8	66.1	80.1	81.3	81.4
	(3.74)	(3.96)	(5.22)	(4.25)	(5.27)	(4.88)	(4.84)	(4.43)	(6.94)	(7.23)	(5.82)	(7.02)
A little like you	23.8	25.5	21.9	24.9	20.9	17.4	20.6	28.6	29.9	18.9	15.7	16.6
	(3.63)	(3.91)	(4.80)	(4.02)	(4.99)	(4.78)	(4.65)	(4.25)	(6.71)	(7.09)	(5.43)	(6.72)
Not at all like you	2.4	0.9	6.5	4.9	3.4	1.0	2.3	4.5	4.0	0.9	3.0	2.0
	(1.30)	(0.85)	(2.86)	(2.01)	(2.23)	(1.25)	(1.73)	(1.95)	(2.87)	(1.71)	(2.55)	(2.53)
You feel life is full of interesting things to do												
Very much like you	61.1	61.2	61.3	62.0	61.6	57.1	60.3	51.4	61.7	58.7	58.8	62.4
	(4.14)	(4.33)	(5.67)	(4.50)	(5.97)	(5.80)	(5.63)	(4.69)	(7.18)	(8.89)	(7.36)	(8.74)
A little like you	33.0	33.8	26.8	30.9	32.1	35.1	33.6	39.5	32.2	37.7	34.5	33.5
	(4.00)	(4.21)	(5.15)	(4.29)	(5.73)	(5.60)	(5.43)	(4.59)	(6.90)	(8.75)	(7.11)	(8.52)
Not at all like you	5.9	5.0	11.9	7.1	6.2	7.9	6.1	9.2	6.1	3.5	6.7	4.1
	(2.00)	(1.94)	(3.77)	(2.38)	(2.96)	(3.16)	(2.75)	(2.71)	(3.53)	(3.32)	(3.74)	(3.58)
You feel useful and important												
Very much like you	61.6	56.1	49.5	57.8	51.4	53.7	66.5	48.9	54.3	67.7	62.0	58.4
	(4.15)	(4.43)	(5.81)	(4.59)	(6.15)	(6.33)	(5.42)	(4.70)	(7.32)	(8.42)	(7.27)	(8.90)
A little like you	30.1	37.8	31.8	34.2	38.5	41.9	28.9	41.6	42.0	28.7	31.9	35.5
	(3.91)	(4.33)	(5.42)	(4.41)	(5.98)	(6.26)	(5.20)	(4.63)	(7.25)	(8.15)	(6.98)	(8.64)
Not at all like you	8.3	6.0	18.8	8.0	10.1	4.4	4.7	9.5	3.6	3.6	6.2	6.1
	(2.35)	(2.12)	(4.54)	(2.52)	(3.71)	(2.60)	(2.43)	(2.75)	(2.74)	(3.35)	(3.61)	(4.32)
How often youth felt this in past week:												
Enjoys life												
Most or all of the time	59.2	58.3	56.4	55.8	46.7	52.7	53.7	52.5	43.3	65.6	56.2	52.1
	(4.18)	(4.40)	(5.74)	(4.59)	(6.14)	(6.31)	(5.72)	(4.69)	(7.38)	(8.57)	(7.43)	(9.02)
A lot of the time	18.0	20.1	18.7	19.5	28.7	30.9	23.0	24.0	34.4	10.7	23.3	29.0
	(3.27)	(3.57)	(4.51)	(3.66)	(5.56)	(5.84)	(4.83)	(4.01)	(7.07)	(5.58)	(6.33)	(8.19)
Sometimes	18.2	19.2	15.7	16.5	23.0	12.3	21.1	21.6	19.8	21.9	17.5	14.8
	(3.28)	(3.51)	(4.21)	(3.43)	(5.18)	(4.15)	(4.68)	(3.86)	(5.93)	(7.46)	(5.69)	(6.41)
Rarely or never	4.6	2.4	9.1	8.2	1.5	4.1	2.2	2.0	2.4	1.8	3.1	4.1
	(1.78)	(1.36)	(3.33)	(2.53)	(1.49)	(2.51)	(1.68)	(1.31)	(2.28)	(2.40)	(2.59)	(3.58)

See note at end of table.

Table 2. Youth with disabilities' reported feelings about positive aspects of self and life, by disability category—Continued

Extent statement is like youth	Learning disability	Speech/ language impair-ment	Mental retar-dation	Emo-tional distur-bance	Hearing impair-ment	Visual impair-ment	Ortho-pedic impair-ment	Other health impair-ment	Autism	Trau-matic brain injury	Multiple disabili-ties	Deaf-blind-ness
	Percent / standard error											
Hopeful about the future												
Most or all of the time	41.9 (4.21)	38.2 (4.34)	28.8 (5.35)	47.7 (4.65)	36.8 (5.95)	46.2 (6.33)	47.0 (5.76)	36.7 (4.56)	33.9 (7.05)	46.8 (9.08)	36.4 (7.21)	56.3 (8.95)
A lot of the time	23.3 (3.60)	19.9 (3.57)	24.4 (5.08)	19.1 (3.66)	28.3 (5.55)	25.4 (5.53)	23.1 (4.86)	21.1 (3.86)	28.8 (6.75)	10.0 (5.46)	25.7 (6.55)	20.8 (7.33)
Sometimes	22.9 (3.58)	30.2 (4.10)	29.6 (5.39)	22.8 (3.91)	28.4 (5.56)	20.2 (5.10)	21.9 (4.77)	27.7 (4.24)	30.2 (6.84)	31.1 (8.42)	24.3 (6.43)	18.8 (7.05)
Rarely or never	11.9 (2.76)	11.8 (2.88)	17.1 (4.45)	10.4 (2.84)	6.6 (3.06)	8.2 (3.48)	8.1 (3.15)	14.5 (3.33)	7.1 (3.83)	12.2 (5.96)	13.6 (5.14)	4.1 (3.58)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

The extent to which youth agree with the statement "you feel your life is full of interesting things to do" does not vary significantly by disability category, nor does their frequency of reporting enjoying life "most or all of the time." Rates of reporting enjoying life most or all of the time in the preceding week range from 43 percent of those with autism to 66 percent of those with traumatic brain injuries, and rates of reporting that feeling that life is full of interesting things to do is "very much" like them range from 51 percent of youth with other health impairments to 62 percent of those with deaf-blindness. Youth vary somewhat in their descriptions of feeling useful and being hopeful about the future. Youth with mental retardation are more likely to say that the statement "you feel useful and important" is "not at all" like them (19 percent) than are those with orthopedic impairments (5 percent, $p < .01$), visual impairments (4 percent, $p < .01$), autism (4 percent, $p < .01$), or traumatic brain injuries (4 percent, $p < .01$). Those with mental retardation are less likely to state that they felt hopeful about the future "most or all of the time" during the past week (29 percent) than are youth with emotional disturbances (48 percent, $p < .01$).

Negative aspects. Reports of feeling depressed "rarely or never" in the previous week range from 70 percent for those with visual impairments to 44 percent for those with multiple disabilities; these are the only two disability categories that differ significantly from each other on this measure ($p < .01$). Across disability categories, few report feeling depressed most or all of time, with rates ranging from 2 percent of youth with deaf-blindness to 12 percent of those with multiple disabilities (table 3).

Youth do not significantly differ by disability category in their frequency of reporting feeling lonely. From 3 percent to 11 percent of youth with disabilities report feeling lonely "most or all of the time" during the past week, and from 46 percent to 66 percent report "rarely or never" feeling lonely in the preceding week, not statistically significant differences.

In contrast, youth with traumatic brain injuries are significantly more likely to report feeling disliked "most or all of the time" than are those with learning disabilities (10 percent vs. 2 percent, $p < .01$). Conversely, three-fourths of youth with learning disabilities indicate they "rarely or never" feel disliked, whereas fewer than half of youth with multiple disabilities, other health impairments, or traumatic brain injuries report "rarely or never" feeling disliked ($p < .01$ for comparisons with youth with multiple disabilities or other health impairments, $p < .001$ for comparison with youth with traumatic brain injuries).

Table 3. Youth with disabilities' reported feelings about negative aspects of self and life, by disability category

How often youth felt this in the past week	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage who feel:												
Depressed												
Most or all of the time	2.8	5.9	11.0	5.6	4.3	3.0	7.2	4.8	5.6	6.2	12.3	2.0
	(1.40)	(2.10)	(3.65)	(2.12)	(2.49)	(2.17)	(2.97)	(2.00)	(3.40)	(4.35)	(4.91)	(2.53)
A lot of the time	3.1	4.0	4.8	5.6	4.3	4.1	10.2	4.4	7.0	5.4	2.1	4.1
	(1.47)	(1.74)	(2.49)	(2.12)	(2.49)	(2.52)	(3.48)	(1.92)	(3.77)	(4.08)	(2.14)	(3.58)
Sometimes	36.3	29.3	32.3	29.4	31.1	22.8	18.1	33.6	36.4	32.4	42.0	37.4
	(4.09)	(4.05)	(5.45)	(4.21)	(5.68)	(5.34)	(4.43)	(4.43)	(7.11)	(8.44)	(7.38)	(8.73)
Rarely or never	57.8	60.8	52.0	59.3	60.4	70.1	64.6	57.2	51.0	56.0	43.6	56.5
	(4.20)	(4.34)	(5.82)	(4.54)	(6.01)	(5.83)	(5.50)	(4.64)	(7.39)	(8.96)	(7.42)	(8.95)
Lonely												
Most or all of the time	5.7	7.6	5.2	8.4	8.9	8.4	9.9	10.9	3.3	10.7	8.5	6.4
	(2.93)	(2.26)	(4.01)	(2.47)	(2.67)	(2.57)	(3.42)	(4.71)	(2.20)	(3.58)	(4.11)	(4.42)
A lot of the time	4.0	3.2	10.4	3.4	5.9	4.5	6.3	5.1	7.8	6.1	9.0	12.5
	(2.48)	(1.50)	(5.51)	(1.61)	(2.21)	(1.92)	(2.78)	(3.33)	(3.30)	(2.77)	(4.22)	(5.97)
Sometimes	24.3	24.1	19.4	24.6	21.9	24.2	25.2	28.3	35.2	35.1	34.7	35.5
	(5.42)	(3.64)	(7.14)	(3.83)	(3.87)	(3.96)	(4.98)	(6.81)	(5.87)	(5.53)	(7.02)	(8.64)
Rarely or never	66.0	65.2	64.9	63.5	63.3	62.8	58.6	55.7	53.7	48.1	47.8	45.6
	(5.99)	(4.05)	(8.61)	(4.28)	(4.51)	(4.47)	(5.64)	(7.51)	(6.13)	(5.79)	(7.37)	(8.99)
Disliked												
Most or all of the time	1.6	6.2	13.6	4.5	6.3	9.0	5.8	8.2	6.6	10.2	6.3	8.4
	(1.59)	(2.06)	(6.19)	(1.86)	(2.28)	(2.67)	(2.68)	(4.15)	(3.07)	(2.28)	(3.62)	(5.01)
A lot of the time	2.7	3.6	3.6	3.9	5.2	4.6	5.5	3.5	2.3	3.6	8.4	4.1
	(2.05)	(1.59)	(3.36)	(1.74)	(2.09)	(1.95)	(2.62)	(2.78)	(1.85)	(2.16)	(4.14)	(3.58)
Sometimes	20.4	28.0	15.9	29.2	25.8	21.3	21.7	39.0	32.0	38.3	37.1	31.2
	(5.10)	(3.83)	(6.60)	(4.08)	(4.11)	(3.82)	(4.73)	(7.38)	(5.77)	(5.64)	(7.20)	(8.36)
Rarely or never	75.3	62.3	66.9	62.3	62.7	65.1	67.0	49.3	59.1	47.9	48.1	56.3
	(5.45)	(4.14)	(8.49)	(4.35)	(4.54)	(4.45)	(5.40)	(7.57)	(6.08)	(5.79)	(7.45)	(8.95)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Self-Realization Scale

With the exception of youth with orthopedic and other health impairments, more than half of youth in all disability categories achieve high scores for self-realization (table 4). Proportions across disability categories range from 67 percent to 44 percent. Youth with learning disabilities are more likely to have high self-realization scores (67 percent) than are those with orthopedic or other health impairments (44 percent for both disability categories; $p < .01$ for both comparisons).

Table 4. Self-realization scores of youth, by disability category

Score level	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage of youth with scores:												
Self-realization												
High	67.2	54.1	51.0	61.2	58.9	64.9	44.4	44.3	51.6	53.8	60.8	64.5
	(4.70)	(5.01)	(7.25)	(5.73)	(6.67)	(7.19)	(6.79)	(5.55)	(8.24)	(9.67)	(8.74)	(9.59)
Medium	30.9	44.8	47.2	36.9	41.1	35.1	55.0	54.4	44.0	45.0	35.6	33.0
	(4.62)	(5.00)	(7.24)	(5.67)	(6.67)	(7.19)	(6.80)	(5.56)	(8.18)	(9.65)	(8.56)	(9.42)
Low	1.9	1.1	1.7	1.9	#	#	0.6	1.3	4.4	1.2	3.7	2.5
	(1.36)	(1.04)	(1.90)	(1.60)			(1.02)	(1.25)	(3.39)	(2.11)	(3.37)	(3.14)

Rounds to zero.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Demographic Differences in Self-Perceptions

Youth with disabilities' reported perceptions of who they are and how they feel about themselves and their lives do not differ significantly by age, household income, or race/ethnicity, and for the most part by gender. The one exception is that girls are more likely than boys to evaluate their sensitivity to others' feelings as being "very good" (55 percent vs. 32 percent, $p < .001$).

Summary

This chapter presents findings regarding youth with disabilities' self-descriptions related to six attributes—being a nice person, being able to handle challenges, having a sense of humor, being sensitive to others' feelings, being well organized, and having a disability—as well as their feelings about themselves and their lives.

Youth report higher estimations of some attributes than others. Youth are more likely to describe themselves as being nice and having a sense of humor than to state they are sensitive, well organized, or can handle challenges. Youth are least likely to report considering themselves to be well organized. Those who describe themselves more positively related to one of these attributes are more likely to report being positive about other aspects. Parents' reported perceptions of their children are similar to those described by their children, and parents' and youth's perceptions are related to each other in that youth who hold higher estimates of their abilities tend to have parents who also hold high estimates of the youth's abilities and vice versa.

Fewer than one-third of youth who had received special education services when they were ages 13 through 16 consider themselves to have a disability or special need when they are 15 through 19 years old.

Overall, more than half of those with disabilities report that three positive attributes—being proud of themselves, feeling useful and important, and feeling that life is interesting—are "very much" like them, and that they enjoy life "most or all of the time." Youth are less likely to report feeling hopeful about the future than to describe themselves as being proud or useful, or to assert that life is interesting or enjoyable. Those who report feeling positive about one aspect of their life tend to be more positive about others. When compared with those in the general population, youth with disabilities are more likely to report that they enjoy life and feel hopeful about the future "most or all" of the time.

When asked to share their feelings about themselves and their lives, youth are more likely to report positive than negative feelings toward life. They are 8 to 12 times more likely to state they enjoy life and are hopeful "most or all of the time" and to feel that life is interesting, than to report that they frequently feel depressed. When focusing on the two ends of the frequency spectrum—in the prior week feeling depressed "most or all of the time" or "rarely or never" feeling depressed, youth with disabilities and their peers in the general population do not differ in reporting feelings of being depressed. However, those with disabilities are more likely than youth in the general population to report feeling disliked or lonely "most or all of the time." Youth with disabilities who report they are depressed also are likely to report they feel lonely or disliked.

Youth's reported perceptions of their attributes and their lives differ somewhat by disability category. Perceptions vary both within and across disability categories. For example, youth with emotional disturbances are less likely to describe themselves as a nice person than are those with visual or orthopedic impairments. Within each disability category, youth appraise their skills and abilities as being stronger in some areas than others. For example, youth with learning disabilities are more likely to report considering themselves to be a nice person and someone able to handle challenges than being sensitive to others' feelings.

Identifying oneself as an individual with a disability is more common for youth with some kinds of disabilities than others, although sizable percentages of youth in every disability category report that they do not consider themselves to have a disability. Youth with speech/language impairments or learning disabilities are less likely to report having a disability than youth in most other disability categories.

Overall, youth's reported perceptions about themselves and their lives do not differ significantly by age, household income, race/ethnicity, or gender, other than girls being more likely than boys to evaluate their sensitivity to others' feelings as being "very good."

This chapter has focused on youth with disabilities' perceptions about themselves and their lives; chapter 3 presents youth's self-evaluations of various competencies.

3. Self-Evaluations of the Strengths and Competencies of Youth With Disabilities

This chapter focuses on the "self-evaluations" of youth with disabilities—reports by youth of "how good I am" with regard to particular competencies (Harter 1999, p. 3), an important addition to the self-descriptions of "who I am" and "how I feel" presented in chapter 2 in understanding the perspectives of youth with disabilities. An individual's sense of competence—a perception that he or she is capable or skilled in particular areas, such as athletics (i.e., "domain-specific" competence; Harter 1999) or in broader dimensions of their lives, such as decisionmaking—can be a protective factor against a variety of poor outcomes for adolescents, including depression (Smari, Petursdottir, and Porsteinsdottir 2001) and substance use (Lifrak et al. 1997; Miller 1988; Smith et al. 1995). Perceived competence also has been found to be a critical component of self-esteem (Branden 1995; Mruk 1995); a sense of competence and higher self-esteem is associated with better academic performance (Covington 1989; Martin et al. 2005) and with lower rates of early sexual activity among girls, criminal justice system involvement, health problems, and suicidal ideation (Crockenberg and Soby 1989; Erermis et al. 2004; Spencer et al., 2002; Trzesniewski et al. 2006). Further, poor self-esteem has been found to be amenable to intervention (Haney and Durlak 1998), underscoring the need for identifying students whose self-evaluations indicate a low sense of competence.

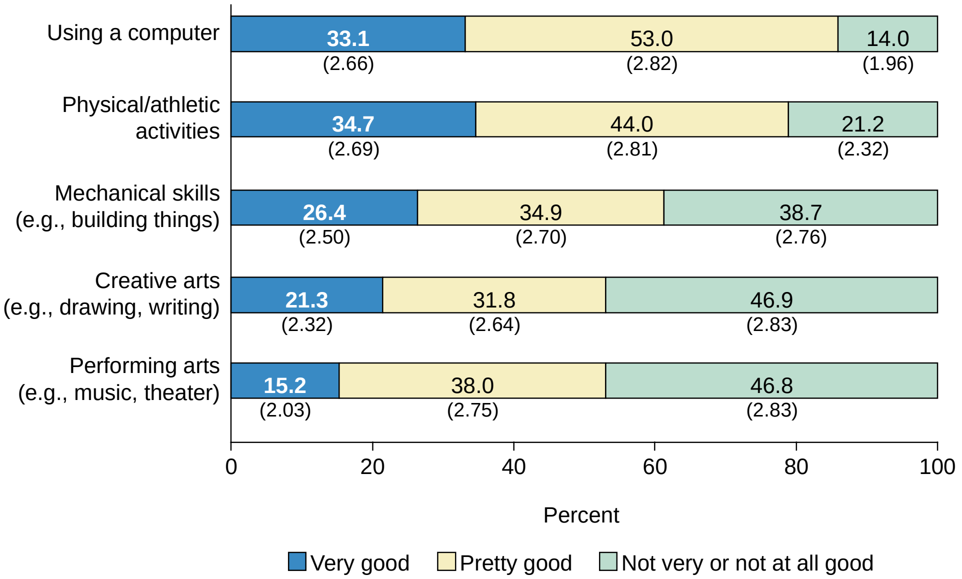
To document the self-representations of the competencies of youth with disabilities, youth were asked to report in telephone interviews how well they perform in six specific domains: athletics, computer use, mechanical tasks, creative arts, performing arts, and self-advocacy. In addition, two subscales from The Arc's Self-Determination Scale (Wehmeyer 2000) related to the broad concepts of personal autonomy and psychological empowerment were administered in in-person interviews with youth.

Domain-Specific Competencies

For each of the areas indicated in figure 6, youth were asked to report on a 4-point scale whether they thought they were "very good, (4 points)" "pretty good," "not very good," or "not at all good" (1 point). A sizeable percentage of youth with disabilities believe themselves to be at least "pretty good" in each of these areas, which varies, depending on the skill, from 53 percent who rate themselves as "pretty good" or "very good" in performing arts to 79 percent who give similar ratings to their physical or athletic abilities. More than one-third (35 percent) consider themselves to be "very good" athletes. In the current age of rapidly growing technology, one-third of youth with disabilities (33 percent) state they are "very good" at using a computer. Twenty-six percent report that their mechanical skills are "very good," about 1 in 5 (21 percent) rate their creative arts abilities as "very good," and 15 percent consider their performing arts skills as being "very good."

At the same time, many youth with disabilities think they do not have artistic talent. Almost half (47 percent) report they are "not very" or "not at all good" at creative or performing arts. More than one third (39 percent) consider themselves to be "not very" or "not at all good" at mechanical manipulations. Approximately one in five (21 percent) give themselves low ratings for being proficient at physical activities, and about one in seven report they are "not very" or "not at all good" at using a computer (14 percent).

Figure 6. Youth with disabilities' reported self-evaluations of their strengths and abilities



NOTE: Response categories "not very good" and "not at all good" have been collapsed for reporting purposes. Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

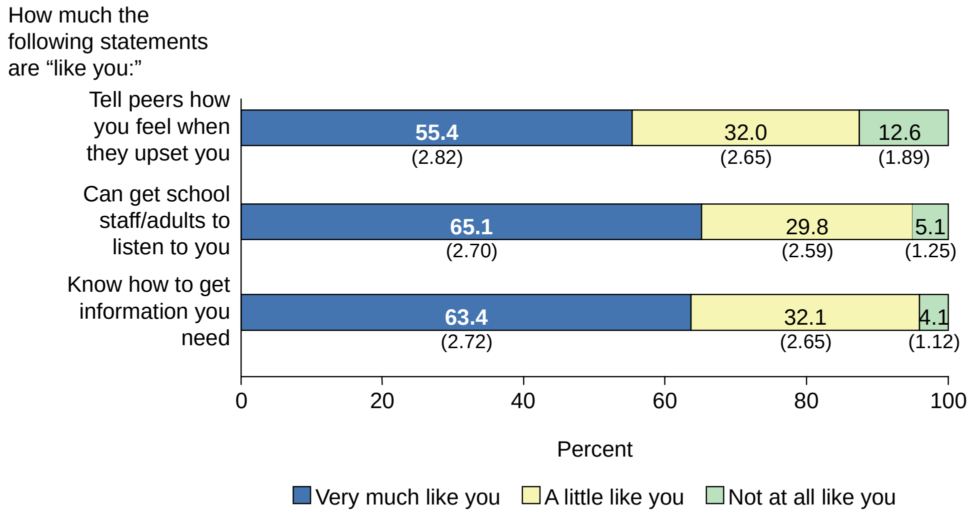
Parents of youth included in this report were asked to rate their children on the same set of strengths and abilities using the same 4-point scale. A comparison of parents' and youth's perceptions indicates that, overall, parents tend to hold higher opinions of their children's strengths than youth hold of themselves. Parents are more likely than youth to consider the youth to be "very good" at four of the five skills and abilities—reporting more positive ratings for using a computer (56 percent vs. 33 percent, $p < .001$), having mechanical skills (37 percent vs. 26 percent, $p < .01$), being skilled in the creative arts (35 percent vs. 21 percent, $p < .001$), and being skilled in the performing arts (28 percent vs. 15 percent, $p < .001$).

Despite these differences, parents' and youth's perceptions are related to each other in that youth who hold higher estimates of their abilities tend to have parents who also hold high estimates of the youth's abilities and vice versa. Values on the 4-point response scale that were reported by parents for each skill area were correlated with scale values reported by youth. All five comparisons of ratings between parents and youth have correlation coefficients of .35 or higher ($p < .001$). Correlations between parents' and youth's perceptions range from $r = .35$ ($p < .001$) for ratings related to computer use to $r = .46$ ($p < .001$) for ratings related to physical/athletic abilities.

In addition to these five domains of competence already presented, NLTS2 investigated the self-evaluations of the self-advocacy skills of youth with disabilities. Such skills are an important element of "self-determination," a concept that has emerged in the special education field to describe a combination of skills, knowledge, and beliefs—including an understanding of one's own strengths and limitations and belief in oneself as capable and effective in interacting with peers and adults to meet those needs—that enables individuals to engage in goal-directed, self-regulated, autonomous behavior (Field et al. 1998).

Youth with disabilities give generally positive reports of their competence in interacting with peers and adults. When asked to report on a 3-point scale, ranging from “not at all like you” (1 point) to “very much like you” (3 points), how much three statements about their beliefs in their competence were like them (figure 7), 55 percent of youth indicate that the statement “You can tell other people your age how you feel when they upset you or hurt your feelings” is “very much” like them. Regarding dealing with adults, almost two-thirds (65 percent) agree that the statement “You can get school staff and other adults to listen to you” is “very much” like them, and a similar percentage of youth (63 percent) indicate that the statement “You know how to get the information you need” is “very much” like them.

Figure 7. Youth with disabilities’ reported self-evaluations of self-advocacy skills



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

A fourth aspect of self-advocacy was measured for the subgroup of youth with disabilities who responded affirmatively that they consider themselves to have a disability and that they are receiving services or therapies because of a disability. This subgroup of youth was asked to report on a 3-point scale how often they “tell professionals what you think about the services they provide you” on a 3-point scale, with response options of “often” (3 points), “sometimes,” and “hardly ever” (1 point). About equal proportions of youth report that they “often” give opinions on services to providers (32 percent), “sometimes” do so (36 percent), and “hardly ever” share opinions with providers (32 percent).

Correlations among the four self-advocacy competency scales were all statistically significant. Values on the response scales for each competency were correlated, producing correlation coefficients that range from .16 (between youth knowing how to get needed information and giving service providers opinions on services; $p < .001$) to .28 (between youth knowing how to get needed information and being able to get school staff to listen to them; $p < .001$).

General Competencies

To obtain a broader picture of how youth with disabilities represent more general competencies than are assessed with domain-specific questions, NLTS2 asked youth to report in an in-person interview[1] the extent to which their behavior reflects skills associated with two subscales of the Arc's Self-Determination Scale—those reflecting personal autonomy and psychological empowerment (Wehmeyer 1997). Items were selected from The Arc's Self-Determination Scale (Wehmeyer 2000) that address these topics; they were selected from among those in the original instrument with the highest factor loading and face validity to reflect these conceptual domains. Responses to all items are self-reports by youth.

Behavior is considered to be autonomous if a person acts independently according to his or her own preferences, interests, and abilities without undue external influence or interference (Wehmeyer 2000). Items in the personal autonomy subscale include those assessing independence in personal care, interacting with the environment, pursuing interests in the community, and personal expression; scores are associated with the ability to make choices and act on personal preferences and beliefs related to youth's personal and social lives.[2]

Responses were reported on a 4-point scale ranging from "not even when I have the chance" (1 point) to "every time I have the chance" (4 points). A scale of personal autonomy created by summing response values across the individual items ranges from 10 (all responses "not even when I have the chance") to 40 (all responses "every time I have the chance"); values are reported as low (10 to 20), medium (21 to 30), and high (31 to 40). Very few youth with disabilities score in the low range for personal autonomy (2 percent), whereas about equal proportions score in the medium and high ranges (48 percent and 50 percent, respectively; figure 8).

Psychological empowerment refers to a combination of attitudes and abilities leading individuals to believe they have the ability to achieve a desired outcome (Ward 1988; Zimmerman 1990). Items used in this subscale ask youth to consider and select one of two opposing views of their abilities in the areas of decision-making, perseverance, and locus of control.[3] Items are scored "0" to reflect a nonempowered self-evaluation or "1" to reflect an empowered self-evaluation. A summative scale of psychological empowerment ranges from 0 to 6, with scores reported as low (0 to 2), medium (3 to 4), and high (5 to 6). Most youth (82 percent) score in the high range on the psychological empowerment subscale measure; 3 percent score in the low category.

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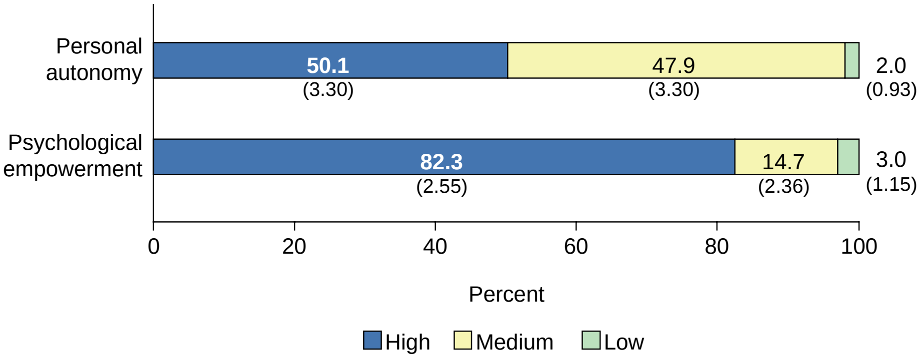
[1] Although the in-person interview was conducted with all youth for whom a direct assessment of academic skills was completed, responses are included here only for the subsample of youth who were able to respond for themselves to the Wave 2 telephone interview or mail survey.

[2] Personal autonomy items include: I keep my own personal items together; I keep good personal care and grooming; I make friends with other kids my age; I keep my appointments and meetings; I plan weekend activities that I like to do; I am involved in school-related activities; I volunteer for things that I am interested in; I go to restaurants that I like; I choose gifts to give to family and friends, and I choose how to spend my personal money.

[3] Psychological empowerment items include: I tell others when I have a new or different opinion, or I usually agree with others' opinions and/or ideas; I can make my own decisions, or Other people make decisions for me; I can get what I want by working hard, or I need good luck to get what I want; I keep trying even after I get something wrong, or It is no use to keep trying because it will not work; I usually make good choices, or I usually do not make good choices; and I will be able to make choices that are important to me, or My choices will not be honored.

Figure 8. Reported competencies of youth with disabilities related to personal autonomy and psychological empowerment



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), youth in-person interviews, 2002 and 2004.

Disability Category Differences in Self-Evaluations of Students' Competencies

Several of youth's self-evaluations of their competencies differ significantly across disability categories.

Domain-Specific Competencies

Perceptions of strengths and abilities vary both within and across disability categories (table 5). Youth with emotional disturbances are significantly more likely to report having "very good" mechanical skills (41 percent) than are those in all other categories except learning disability, traumatic brain injury, and multiple disabilities; ratings for other disability categories range from 7 percent for youth with orthopedic impairments to 25 percent for those with other health impairments. Those with emotional disturbances also are more likely to regard themselves as having "very good" athletic skills (43 percent), compared with youth with orthopedic impairments (11 percent, $p < .001$) or autism (14 percent, $p < .001$). Youth with autism are more likely to consider themselves as having "very good" computer skills (62 percent) than youth with learning disabilities (29 percent, $p < .001$), speech and language impairments (38 percent, $p < .01$), mental retardation (33 percent, $p < .01$), or other health impairments (37 percent, $p < .001$).

Within each disability category, youth appraise their skills and abilities as being stronger in some areas than others. For example, youth with learning disabilities are more likely to consider themselves to be athletic than artistic (36 percent report being "very good" at athletics vs. 22 percent at creative arts, $p < .001$, and 14 percent at performing arts, $p < .001$), and youth with orthopedic impairments are more likely to regard themselves as being computer savvy (50 percent "very good") than as mechanical (7 percent) or athletic (11 percent; $p < .001$ for both comparisons).

Table 5. Youth with disabilities’ perceptions of strengths and interests, by disability category

How youth rates his or her abilities	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Athletic activities												
Very good	36.4 (4.09)	32.1 (4.16)	26.2 (5.12)	42.5 (4.57)	31.1 (5.67)	25.4 (5.48)	10.7 (3.55)	31.4 (4.36)	13.5 (5.09)	24.7 (7.80)	24.4 (6.44)	20.8 (7.33)
Pretty good	44.7 (4.23)	48.3 (4.45)	46.5 (5.81)	38.1 (4.49)	45.8 (6.10)	42.7 (6.23)	34.2 (5.45)	42.5 (4.65)	33.0 (7.00)	43.3 (8.96)	46.2 (7.47)	48.0 (9.02)
Not very or not at all good	18.9 (3.33)	19.6 (3.54)	27.3 (5.19)	19.4 (3.65)	23.1 (5.16)	31.8 (5.87)	55.1 (5.72)	26.1 (4.12)	53.5 (7.43)	32.0 (8.44)	29.4 (6.83)	31.2 (8.36)
Using a computer												
Very good	28.7 (3.85)	38.3 (4.32)	33.0 (5.44)	44.9 (4.58)	53.6 (6.11)	41.9 (6.21)	49.7 (5.73)	37.2 (4.53)	62.0 (7.14)	40.8 (8.85)	50.4 (7.48)	47.6 (9.02)
Pretty good	57.8 (4.20)	51.5 (4.45)	45.7 (5.77)	41.8 (4.55)	39.9 (6.00)	48.3 (6.29)	44.0 (5.68)	50.7 (4.68)	30.1 (6.74)	51.9 (9.00)	35.5 (7.16)	35.8 (8.65)
Not very or not at all good	13.5 (2.90)	10.1 (2.69)	21.4 (4.75)	13.3 (3.13)	6.6 (3.03)	9.8 (3.75)	6.3 (2.78)	12.2 (3.06)	7.8 (3.95)	7.3 (4.68)	14.2 (5.22)	16.6 (6.72)
Mechanical skills												
Very good	26.6 (3.77)	15.3 (3.22)	19.0 (4.57)	41.2 (4.55)	17.3 (4.63)	11.2 (4.00)	7.4 (2.95)	25.0 (4.06)	14.6 (5.23)	24.8 (7.78)	24.9 (6.50)	18.9 (7.14)
Pretty good	34.8 (4.06)	41.4 (4.40)	30.8 (5.38)	34.3 (4.39)	40.8 (6.02)	25.3 (5.51)	32.0 (5.26)	43.3 (4.64)	29.0 (6.72)	38.1 (8.74)	33.6 (7.10)	38.3 (8.87)
Not very or not at all good	38.6 (4.15)	43.3 (4.43)	50.2 (5.83)	24.5 (3.97)	41.9 (6.05)	63.5 (6.10)	60.6 (5.51)	31.8 (4.36)	56.4 (7.34)	37.0 (8.70)	41.5 (7.41)	42.8 (9.03)
Creative arts												
Very good	22.1 (3.55)	17.0 (3.34)	14.8 (4.12)	26.2 (4.05)	20.9 (4.99)	23.9 (5.38)	19.3 (4.44)	19.8 (3.73)	25.2 (6.36)	21.6 (7.41)	16.1 (5.55)	22.9 (7.59)
Pretty good	32.4 (4.00)	34.2 (4.22)	23.0 (4.89)	38.4 (4.48)	34.0 (5.81)	35.0 (6.02)	29.4 (5.13)	31.3 (4.35)	43.6 (7.26)	22.9 (7.57)	19.6 (6.00)	35.1 (8.62)
Not very or not at all good	45.5 (4.26)	48.8 (4.45)	62.2 (5.63)	35.3 (4.41)	45.1 (6.11)	41.1 (6.21)	51.3 (5.63)	48.8 (4.68)	31.2 (6.78)	55.5 (8.95)	64.4 (7.23)	42.1 (8.91)
Performing arts												
Very good	13.6 (2.92)	17.9 (3.44)	17.4 (4.40)	19.1 (3.63)	19.1 (4.82)	25.2 (5.48)	13.4 (3.94)	14.3 (3.29)	18.3 (5.74)	20.0 (7.20)	21.3 (6.15)	22.7 (7.56)
Pretty good	40.8 (4.19)	38.4 (4.37)	32.3 (5.43)	33.0 (4.34)	30.0 (5.61)	42.3 (6.23)	30.9 (5.35)	35.6 (4.50)	36.2 (7.13)	31.7 (8.38)	25.8 (6.57)	29.3 (8.22)
Not very or not at all good	45.7 (4.25)	43.8 (4.45)	50.3 (5.81)	47.9 (4.61)	50.9 (6.12)	32.5 (5.91)	55.7 (5.75)	50.1 (4.70)	45.5 (7.39)	48.3 (9.00)	52.9 (7.50)	48.0 (9.02)

NOTE: Response categories “not very good” and “not at all good” have been collapsed for reporting purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Youth in different disability categories do not differ significantly in several of their self-evaluations of self-advocacy skills (table 6). For example, there are no statistically significant differences among youth in different disability categories in their reports of being able to get school staff and other adults to listen to them or in how often they report telling professionals what they think about their services. Additionally, no differences among disability categories in youth’s self-evaluations of their ability to get information they need for daily activities reach statistical significance at the $p < .01$ level. An exception to this pattern is that two-thirds (66 percent) of youth with visual impairments state they are readily able to tell their peers how they feel when the peers upset them, whereas about half as many youth with autism (34 percent) report being similarly competent (*p* < .001).

Table 6. Youth with disabilities' feelings of competence, by disability category

Competence	Learning disability	Speech/ language impair-ment	Mental retar-dation	Emo-tional distur-bance	Hearing impair-ment	Visual impair-ment	Ortho-pedic impair-ment	Other health impair-ment	Autism	Trau-matic brain injury	Multiple disabili-ties	Deaf-blind-ness
	Percent / standard error											
Percentage reporting how much the following statements are "like you:"												
Tell peers how you feel when they upset you												
Very much like you	58.1	48.0	45.7	56.7	47.7	65.8	52.2	51.4	34.4	60.3	50.7	48.9
	(4.22)	(4.45)	(5.85)	(4.62)	(6.14)	(6.00)	(5.75)	(4.74)	(7.00)	(8.81)	(7.45)	(9.12)
A little like you	32.6	39.4	32.0	23.0	42.1	25.9	36.6	35.8	46.6	32.5	31.0	38.6
	(4.01)	(4.35)	(5.47)	(3.92)	(6.07)	(5.54)	(5.54)	(4.54)	(7.35)	(8.43)	(6.90)	(8.88)
Not at all like you	9.3	12.5	22.3	20.4	10.2	8.3	11.2	12.8	19.0	7.1	18.3	12.5
	(2.48)	(2.95)	(4.89)	(3.76)	(3.72)	(3.49)	(3.63)	(3.17)	(5.78)	(4.62)	(5.77)	(6.03)
Can get school staff and adults to listen to you												
Very much like you	66.7	57.5	61.6	65.5	60.4	70.3	67.7	60.3	56.1	69.1	63.6	73.1
	(4.01)	(4.40)	(5.68)	(4.40)	(6.02)	(5.77)	(5.38)	(4.59)	(7.31)	(8.32)	(7.10)	(8.00)
A little like you	29.3	36.3	30.9	27.7	30.9	25.7	29.5	34.5	36.4	26.5	26.7	18.6
	(3.88)	(4.28)	(5.39)	(4.14)	(5.69)	(5.52)	(5.25)	(4.46)	(7.09)	(7.95)	(6.53)	(7.02)
Not at all like you	4.1	6.2	7.5	6.8	8.7	3.9	2.8	5.3	7.5	4.4	9.7	8.3
	(1.69)	(2.15)	(3.07)	(2.33)	(3.47)	(2.44)	(1.90)	(2.10)	(3.88)	(3.69)	(4.37)	(4.98)
Know how to get information you need												
Very much like you	63.5	61.6	57.4	74.3	63.6	77.4	60.0	61.2	63.2	66.6	60.7	66.7
	(4.09)	(4.33)	(5.76)	(4.05)	(5.91)	(5.32)	(5.63)	(4.58)	(7.11)	(8.49)	(7.34)	(8.51)
A little like you	33.4	33.6	32.9	22.5	33.3	21.6	36.3	34.8	32.2	27.5	31.1	33.3
	(4.01)	(4.20)	(5.48)	(3.87)	(5.79)	(5.23)	(5.52)	(4.48)	(6.89)	(8.04)	(6.96)	(8.51)
Not at all like you	3.1	4.8	9.7	3.1	3.1	1.0	3.7	4.0	4.6	5.9	8.1	#
	(1.47)	(1.90)	(3.45)	(1.61)	(2.13)	(1.27)	(2.17)	(1.84)	(3.09)	(4.24)	(4.10)	
Tell professionals their opinions on services provided												
Often	33.3	23.0	48.6	31.5	25.7	23.6	23.0	30.7	23.2	35.7	18.5	‡
	(9.83)	(9.85)	(16.42)	(10.22)	(8.90)	(8.03)	(7.92)	(8.14)	(9.41)	(15.28)	(9.45)	
Sometimes	33.0	45.2	29.0	33.3	47.7	50.6	47.9	38.9	34.8	33.2	54.6	‡
	(9.81)	(11.65)	(14.91)	(10.37)	(10.18)	(9.46)	(9.40)	(8.61)	(10.62)	(15.02)	(12.12)	
Hardly ever	33.7	31.9	22.4	35.1	26.6	25.9	29.1	30.4	42.1	31.1	26.8	‡
	(9.86)	(10.91)	(13.70)	(10.50)	(9.00)	(8.29)	(8.55)	(8.12)	(11.01)	(14.77)	(10.78)	

‡ Responses for items with fewer than 30 respondents are not reported.

Rounds to zero.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

General Competencies

There is considerable variation in scores on the personal autonomy subscale between youth in different disability categories (table 7). Although few youth (0 to 5 percent) in any disability category score in the low range, greater variation exists across disability categories for scores in the high ranges. The percentages of youth with high scores on personal autonomy range from 23 percent to 63 percent. Fewer than one-quarter of those with autism receive high scores (23 percent), compared with 63 percent of youth with visual impairments ($p < .001$), 57 percent of youth with hearing impairments ($p < .001$), 55 percent of youth with speech or language impairments ($p < .001$), 53 percent of youth with multiple disabilities ($p < .01$), 52 percent of youth with learning disabilities ($p < .001$), and 50 percent of youth with mental retardation ($p < .01$). Youth with visual impairments also are more likely than those with emotional disturbances to score in the high range on the personal autonomy scale (63 percent vs. 39 percent, $p < .01$). Scores on psychological empowerment are in the high range for the majority of youth in all disability categories (from 64 percent of youth with autism to 87 percent of youth with visual impairments), with no significant differences across disability categories.

Table 7. Personal autonomy and psychological empowerment scores of youth, by disability category

Score level	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage of youth with scores:												
Personal autonomy												
High	52.1 (4.97)	55.1 (5.00)	50.4 (7.23)	38.9 (5.73)	57.0 (6.70)	63.4 (7.23)	46.5 (6.78)	43.3 (5.53)	22.9 (6.93)	39.2 (9.47)	53.2 (8.87)	37.7 (9.58)
Medium	45.9 (4.96)	43.2 (4.98)	47.2 (7.22)	58.4 (5.79)	41.7 (6.67)	35.9 (7.21)	51.7 (6.79)	56.1 (5.54)	72.1 (7.40)	58.2 (9.57)	46.8 (8.87)	59.9 (9.69)
Low	2.0 (1.39)	1.7 (1.31)	2.4 (2.20)	2.7 (1.91)	1.4 (1.57)	0.7 (1.24)	1.8 (1.81)	0.6 (0.88)	5.1 (3.61)	2.6 (3.09)	#	2.5 (3.06)
Psychological empowerment												
High	84.4 (3.64)	82.8 (3.81)	72.2 (6.48)	85.3 (4.17)	79.6 (5.48)	87.1 (5.06)	82.9 (5.14)	79.6 (4.55)	64.2 (8.09)	83.4 (6.97)	66.8 (8.46)	75.8 (8.81)
Medium	12.2 (3.28)	16.2 (3.72)	22.8 (6.07)	13.5 (4.04)	16.7 (5.07)	11.6 (4.82)	16.5 (5.08)	19.4 (4.46)	34.1 8.00	15.7 (6.82)	32.1 (8.39)	21.6 (8.45)
Low	3.5 (1.83)	1.1 (1.03)	5.0 (3.15)	1.1 (1.25)	3.8 (2.59)	1.4 (1.77)	0.5 (1.00)	1.0 (1.13)	1.7 (2.16)	0.8 (1.70)	1.1 (1.84)	2.7 (3.30)

Rounds to zero.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), youth in-person interviews, 2002 and 2004.

Summary

This chapter reports the self-evaluations of both domain-specific and more general competencies of youth with disabilities. More than half report they are "very good" or "pretty good" in each of five areas: physical/athletic abilities, computer use, mechanical skills, creative arts, and performing arts. Comparison of parents' and youth's perceptions indicates that, overall, parents tend to report higher opinions of their children's strengths than youth report for themselves. Despite these differences, parents' and youth's perceptions are related to each other in that youth who hold higher estimates of their abilities tend to have parents who also hold high estimates of the youth's abilities and vice versa. Youth also were asked to report on several aspects of their self-advocacy skills. More than half of youth with disabilities report that positive statements reflecting good self-advocacy skills are "very much" like them, and about one-third of youth who identified themselves as persons with disabilities and received services for them report "often" giving their opinions of those services to service providers.

Self-evaluations of the broader concepts of personal autonomy and psychological empowerment, garnered through administration of items selected from those subscales of The Arc's Self-Determination Scale (Wehmeyer 2000) show that half of youth with disabilities score in the high range for personal autonomy, and more than 8 out of 10 have high scores on the psychological empowerment subscale. NLTS2 investigated whether specific instruction in transition planning for youth or their level of participation in the transition planning process was associated with these scores, but no statistically significant relationships were found.

Although there are no differences in findings associated with youth's gender, age, household income, or race/ethnicity, there are some variations associated with disability category. Youth with visual impairments are more likely than youth in many other disability categories to report confidence in interacting with peers and adults, including confidence in expressing their service needs.

4. Youth With Disabilities’ Views of Secondary School

Research has demonstrated that the way youth feel about school can be related to their behavior and performance at school, outside of school, and in the years after leaving school. For example, studies have established linkages between students’ participation in school, enjoyment of school, and academic achievement (Fredricks and Eccles 2006; Herman and Tucker 2000; Hudley et al. 2002; Newmann 1992; Singh, Granville, and Dika 2002; Sirin and Jackson 2001). Further, a recent “snapshot of America’s teens” (Albert et al. 2005) reports research that suggests that teens who feel connected to their schools and are highly involved at school are less likely to have sex at an early age, and girls are less likely to get pregnant (Manlove 1998; Resnick et al. 1997). Pursuit of postsecondary education also has been statistically related to youth’s engagement in their schooling during their high school years (Finn 2006; Fredricks and Eccles 2006; Mahoney, Cairns, and Farmer 2003). However, little research has addressed the perceptions youth with disabilities have of their experiences in secondary school.

This chapter addresses this gap in the knowledge base by documenting the self-reported perceptions of youth with disabilities[1] regarding the following aspects of their school experiences:

- academic challenges;
- interpersonal challenges;
- school safety;
- services and supports received at school;
- affiliation with school; and
- enjoyment of school.

Challenges at School

Several aspects of schooling present challenges to some youth with disabilities, including those associated with meeting academic expectations and getting along with others.

Academic Challenges

Eligibility for special education requires that a student’s disability present a challenge to his or her ability to learn without specially designed instruction, modifications, accommodations, or other supports.[2] These learning challenges were documented by NLTS2 in a direct assessment of students’ achievement, which found substantially lower academic achievement among youth with disabilities relative to general education peers. For example, the average standard score of 16- through 18-year-old youth with disabilities on a standardized measure of reading

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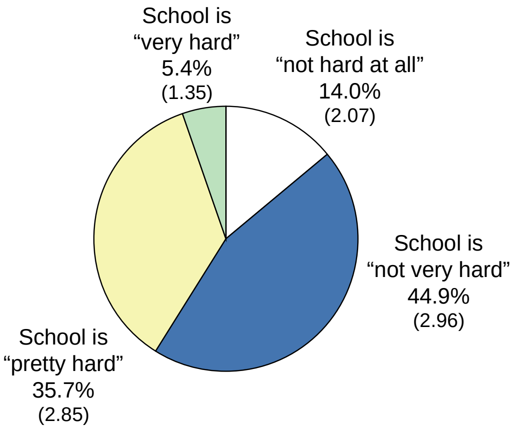
[1] Readers are reminded that findings are national estimates for the subsample of youth with disabilities who could report their own perceptions and expectations, not a sample of all youth with disabilities in the NLTS2 age range. See chapter 1 for further details on the group that is the focus of this report.

[2] See appendix A for the definitions of disabilities that make students eligible for special education service in each of the 12 federal special education disability categories.

Figure 9. Youth with disabilities' reported perceptions of school being “hard”



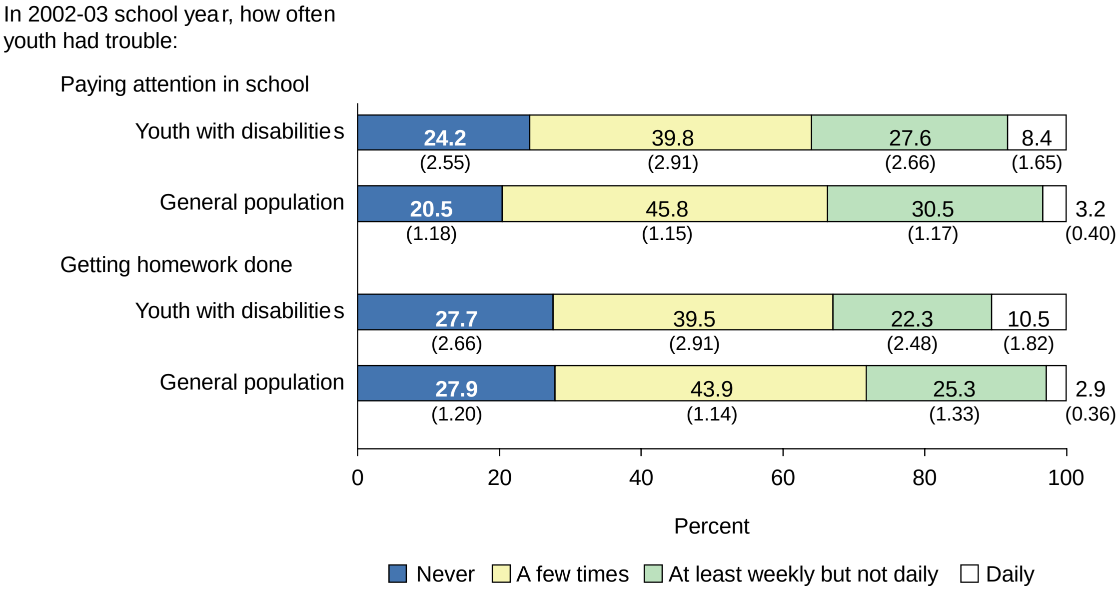
NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

comprehension[3] is 79, and the average for math calculation skills is 84; both scores are more than one standard deviation below the average score of 100 among same-age youth in the general population (Wagner et al. 2006). Despite their learning challenges, 14 percent of youth with disabilities report on a 4-point scale that secondary school is academically “not hard at all” (figure 9), and 45 percent report it to be “not very hard.” In contrast, 36 percent report finding school “pretty hard,” and 5 percent say it is “very hard.”

NLTS2 youth were asked to report on a 4-point scale how frequently they face challenges presented by two specific aspects of their academic experience during the current school year—paying attention in class and finishing their homework (figure 10).

Figure 10. Youth with disabilities’ reported academic challenges



NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; National Institute of Child Health and Human Development, The National Longitudinal Study of Adolescent Health (Add Health), Wave II youth interviews, 1996.

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[3] The NLTS2 direct assessment of academic achievement used research versions of subtests of the Woodcock-Johnson III related to passage comprehension, synonyms and antonyms, mathematics calculation, applied mathematics problem-solving, and content knowledge in science and social studies (Woodcock, McGrew, and

About one-fourth of youth with disabilities report "never" having trouble with these academic expectations (24 percent and 28 percent, respectively), and 40 percent report having trouble with each of them "a few times." More frequent difficulties are reported by about one-third of youth with disabilities, including 8 percent who report daily difficulties with paying attention and 11 percent who report daily challenges to completing homework. These percentages of youth with disabilities having daily difficulties with paying attention and completing homework are significantly higher than rates among youth in the general population (3 percent for both challenges, $p < .01$ and $p < .001$, respectively).[4]

Correlations of scale scores of the frequency of having difficulty paying attention and completing homework show they are related to each other in that youth who face one of these challenges tend also to face the other ($r = .48$, $p < .001$). Further, both of these academic challenges have statistically significant correlations with youth's perceptions of school being hard for them ($r = .15$ and .18 for difficulty paying attention and completing homework, respectively; $p < .001$ for both correlations).

Although both of these academic challenges have a statistically significant correlation with youth's perceptions of school being hard for them, the correlations of .15 and .18 are modest.

Interpersonal Challenges

Students' school experiences can be shaped by the relationships they form with peers and adults at school. Forming positive relationships may be particularly challenging for youth with disabilities because, on average, their social skills are not as strong as those of youth in the general population (Cameto et al. 2003). Nonetheless, the large majority of youth with disabilities report they have little trouble getting along with teachers or other students (figure 11). Forty-three percent and 39 percent of youth with disabilities say they "never" have trouble getting along with teachers and students, respectively, and 36 percent say they do only "a few times" in the school year. In addition, half of youth with disabilities report they agree "a lot" with the statement "There is an adult at school who you feel close to and who cares about you," and 35 percent indicate "a little" agreement with the statement.

In contrast, 6 percent of students with disabilities report daily problems getting along with teachers, and 11 percent report daily problems getting along with other students. These rates of daily problems getting along with other teachers and students are more than four times the rates of such frequent problems reported by students in the general population (1 percent and 3 percent, respectively, $p < .001$).[5] Further, 15 percent of students with disabilities report "a little" or "a lot" of disagreement with the statement that they feel close to an adult at school who cares about them.

Correlational analyses of youth's scale scores regarding the frequency of having interpersonal challenges with teachers and peers show they are related among youth with

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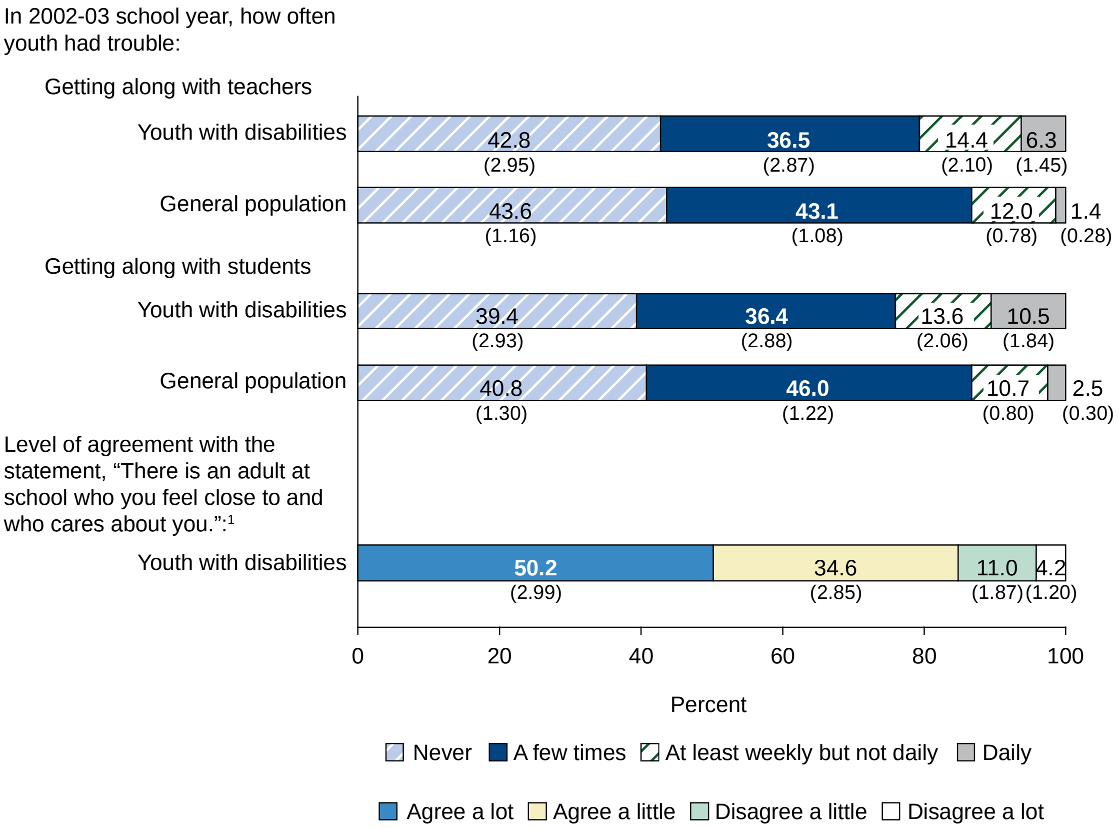
Mather 2001). See Wagner et al. (2006) for additional details of the assessment methods and instruments and of the findings.

[4] Calculated for 15- through 19-year-olds using data from Wave II youth interviews of The National Longitudinal Study of Adolescent Health (Add Health), 1996 (Udry 1998); item wording is identical to that of NLTS2.

[5] Calculated for 15- through 19-year-olds using data from Wave II youth interviews of The National Longitudinal Study of Adolescent Health (Add Health), 1996 (Udry 1998); item wording is identical to that of NLTS2.

Figure 11. Youth with disabilities' reported interpersonal challenges at school



[1] Comparison data are not available for general population.

NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; National Institute of Child Health and Human Development, The National Longitudinal Study of Adolescent Health (Add Health), Wave II youth interviews, 1996.

disabilities ($r = .36$, $p < .001$). In contrast, correlations between these two scales and the extent to which youth perceive there to be a caring adult at school are not statistically significant.

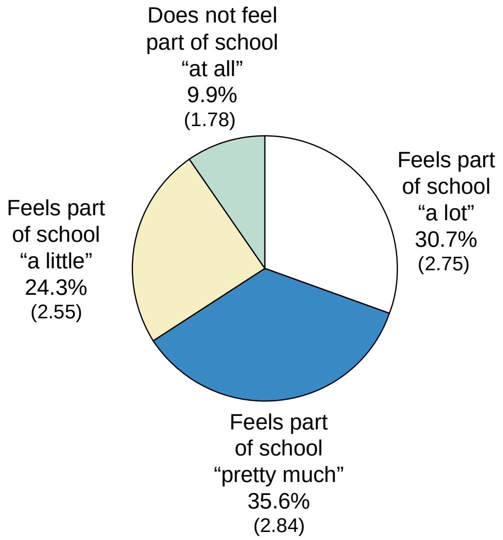
School Safety

Recent research associates a number of negative factors with students not feeling safe at school. For example, students with such feelings have been found to be more likely than those who feel safe to skip school, carry a weapon to school, have difficulty paying attention at school, and demonstrate poor academic achievement (Bluestein 2001). Overall, 38 percent of youth with disabilities report feeling "very safe" at school, and 55 percent report being "pretty safe"; in contrast, 8 percent report feeling "not very safe" or "not safe at all" at school. These reports are quite similar to the 31 percent of youth in the general population who "strongly agree" that they feel safe in their school, the 57 percent who “agree,” and the 12 percent who “disagree” or “strongly disagree” with a sense of safety at school.[6]

Services and Supports Received From School

Students with disabilities receive a variety of services and supports to help them learn (Levine, Marder, and Wagner 2004), and a comparison of services and supports provided to students in 2003 with those provided in the mid-1980s shows significant increases in the likelihood of students with disabilities receiving several kinds of related services (Wagner, Newman, and Cameto 2004). When youth were asked to indicate the degree to which they are (if still in school) or were (if no longer in school) “getting the support and services from the school that you need/needed to do well,” almost half of youth with disabilities (47 percent) report agreeing “a lot,” and more than one-third (37 percent) report agreeing “a little”; 10 percent and 6 percent reported disagreeing “a little” and “a lot,” respectively. Youth who perceive they are getting the services and support they need at school are no more or less likely than those who do not to indicate that school is hard for them.

Figure 12. Youth with disabilities’ reported feelings of being part of their school



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Affiliation With School

Attachment to one’s school has been called one of the “three A’s necessary for school success” (National Center for School Engagement n.d.). Almost one-third of secondary school youth with disabilities (31 percent) report on a 4-point scale feeling part of school “a lot” (figure 12), a rate quite similar to the 32 percent of students in the general population who “strongly agree” with the statement “you feel part of your school.”[7] Another 35 percent of students with disabilities say they feel “pretty much” part of their school. “Little” sense of affiliation with school is reported by 24 percent of youth with disabilities, and 10 percent say they do not feel part of their school “at all.” Students with disabilities are significantly more likely to report a sense of being part of their school “a little” and “not at all” (24 percent and

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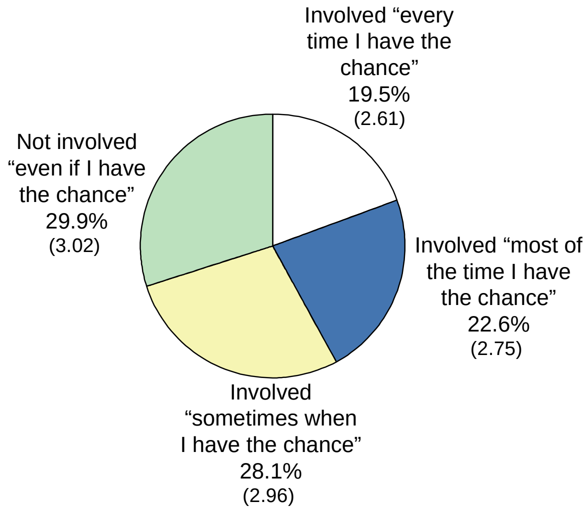
[6] Calculated for 15- through 19-year-olds using data from Wave II youth interviews of The National Longitudinal Study of Adolescent Health (Add Health), 1996 (Udry 1998). Note that the NLTS2 and Add Health items differ in that NLTS2 asked youth to report the degree of their feeling of safety (e.g., “very safe”) whereas Add Health asked youth their degree of agreement with the statement “you feel safe in your school” (e.g., “strongly agree”).

[7] Calculated for 15- through 19-year-olds using data from Wave II youth interviews of the National Longitudinal Study of Adolescent Health (Add Health), 1996 (Udry 1998). Note that the NLTS2 and Add Health items differ in that NLTS2 asked youth to report the degree of their feeling part of their school (e.g., “a lot”) whereas Add Health asked youth their degree of agreement with the statement “you feel part of your school” (e.g., “strongly agree”).

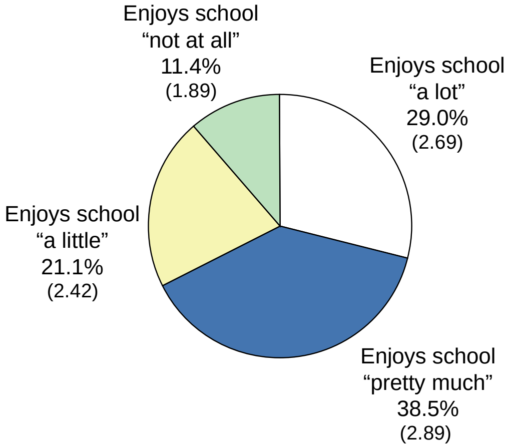
Figure 13. Youth with disabilities' reported level of involvement at school



NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), youth in-person interviews, 2002 and 2004.

Figure 14. Youth with disabilities' reported enjoyment of school



NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

10 percent) than students in the general population are to "disagree" or "strongly disagree" that they feel part of their school (9 percent and 3 percent, respectively, $p < .001$ for both comparisons).

One way students can express their sense of affiliation with school is through their involvement in school activities. In fact, correlational analyses between responses regarding the level of involvement in activities at school and the strength of their feeling of affiliation at school show they are related ($r = .27$, $p < .001$). Almost one in five youth with disabilities (19 percent) report being involved at school "every time I have the chance" (figure 13), in contrast to the 30 percent who choose not to be involved "even when I have the chance." Almost one-fourth of youth with disabilities (23 percent) say they are involved "most of the time," and 28 percent are involved "sometimes" when they have the chance. More than 4 in 10 youth with disabilities (43 percent) who were still in high school in the year preceding the interview report having participated in one or more organized group activities outside of class during that time.

Enjoyment of School

As a general summary of their attitude toward school, youth with disabilities were asked to report on a 4-point scale how much they enjoy school. Almost 3 of 10 youth with disabilities (29 percent) report enjoying school "a lot" (4 points; figure 14), in contrast with the 11 percent who say they don't enjoy school "at all" (1 point). These reports of strongly liking and disliking school are both more common than the rates at which youth in the general population "strongly agree" or "strongly disagree" that they enjoy school (15 percent and 4 percent, respectively, $p < .001$ for both comparisons).[8] Thirty-eight percent of youth with disabilities report they enjoy school “pretty much,” and 21 percent indicate “a little” enjoyment of school.

Correlational analyses of the scale scores of youth with disabilities regarding their overall sense of enjoyment of school and those related to their other feelings about school show some statistically significant relationships. Feeling a part of school was correlated ($r = .46$, $p < .001$) with school enjoyment. Also statistically significantly related to school enjoyment are being involved in school-based activities ($r = .28$, $p < .001$), the ability to identify a caring adult at school ($r = .24$, $p < .001$), the acknowledgment that adults at school provide the services and supports youth need ($r = .26$, $p < .001$), feelings of safety at school ($r = .19$, $p < .001$), and feeling that school is academically difficult ($r = .11$, $p < .001$).

Disability Differences in School Experiences and Perceptions

Challenges at School

Academic challenges. Across disability categories, most youth do not differ significantly in the extent to which they perceive school to be “not hard at all” (table 8). The exception is that 10 percent of youth with learning disabilities, the largest category of secondary school students receiving special education services, report having no academic problems at school, whereas almost three times as many youth with emotional disturbances (27 percent) report finding school to be without academic difficulty ($p < .01$).

Reports of “never” having trouble paying attention at school range from 14 percent of youth with other health impairments, the disability category that generally contains students whose primary disability is attention deficit or attention deficit/hyperactivity disorder, to 39 percent of youth with deaf-blindness. The only differences that reach the $p < .01$ level of statistical significance are between youth with other health impairments (14 percent) and those with visual impairments or mental retardation (34 percent and 35 percent, respectively; $p < .01$ for both comparisons). The percentage of youth reporting “never” having trouble finishing homework ranges from 25 percent of youth with learning disabilities to 44 percent of those with visual impairments; this is the only statistically significant difference in reports of this perception ($p < .01$).

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[8] Calculated for 15- through 19-year-olds using data from the 1999 National Household Education Survey (Nolin et al. 2001). Note that the NLTS2 and NHES items differ in that NLTS2 asked youth to report the degree of their enjoyment of school (e.g., “a lot”) whereas NHES asked youth their degree of agreement with the statement “I enjoy school” (e.g., “strongly agree”).

Table 8. Youth's reported perceptions of academic challenges, by disability category

Academic challenges	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage reporting school is:												
Not hard at all	9.6	16.0	22.4	26.8	16.7	12.9	12.8	14.3	14.0	14.4	23.6	11.2
	(2.67)	(3.45)	(4.96)	(4.64)	(4.83)	(4.20)	(4.04)	(3.61)	(5.33)	(6.62)	(6.54)	(5.95)
Not very hard	49.4	42.5	34.1	34.7	40.1	40.4	43.0	41.8	39.4	43.3	37.5	34.1
	(4.54)	(4.65)	(5.64)	(4.99)	(6.48)	(6.27)	(5.99)	(5.09)	(7.50)	(9.35)	(7.45)	(8.94)
Pretty hard	36.3	37.5	36.6	31.7	27.9	31.2	35.0	37.6	39.4	35.5	30.9	48.0
	(4.36)	(4.56)	(5.73)	(4.88)	(5.81)	(5.81)	(5.77)	(5.00)	(7.50)	(9.03)	(7.11)	(9.42)
Very hard	4.7	3.9	6.9	6.9	4.3	4.5	9.2	6.3	7.2	6.7	8.0	6.7
	(1.92)	(1.82)	(3.02)	(2.66)	(2.90)	(2.86)	(3.50)	(2.51)	(3.97)	(4.72)	(4.18)	(4.71)
Percentage reporting having trouble:												
Paying attention at school												
Never	23.5	18.0	34.9	20.1	31.0	33.5	30.5	14.2	20.7	14.6	30.0	38.8
	(3.84)	(3.61)	(5.72)	(4.20)	(6.03)	(5.90)	(5.44)	(3.59)	(6.23)	(6.55)	(7.04)	(9.19)
Just a few times	40.3	53.4	33.8	36.9	33.3	42.5	43.4	44.9	28.5	54.1	37.6	38.4
	(4.44)	(4.69)	(5.67)	(5.05)	(6.14)	(6.18)	(5.86)	(5.12)	(6.94)	(9.24)	(7.44)	(9.17)
At least weekly but not daily	29.5	19.7	15.9	32.0	24.5	19.2	19.3	36.1	42.5	23.5	18.3	20.6
	(4.13)	(3.74)	(4.39)	(4.89)	(5.60)	(4.92)	(4.66)	(4.94)	(7.60)	(7.86)	(5.94)	(7.62)
Daily	6.7	8.9	15.5	11.0	11.2	4.8	6.8	4.8	8.3	7.8	14.1	2.2
	(2.26)	(2.68)	(4.34)	(3.28)	(4.11)	(2.67)	(2.97)	(2.20)	(4.24)	(4.97)	(5.35)	(2.77)
Finishing homework												
Never	24.7	25.7	37.9	27.1	30.4	44.3	36.5	30.7	26.4	38.4	42.1	41.0
	(3.95)	(4.12)	(5.83)	(4.77)	(6.01)	(6.31)	(5.78)	(4.84)	(6.83)	(9.01)	(7.81)	(9.27)
Just a few times	44.0	44.9	29.6	31.4	35.0	32.5	37.6	30.3	34.7	29.8	29.8	29.3
	(4.54)	(4.69)	(5.49)	(4.98)	(6.23)	(5.95)	(5.81)	(4.82)	(7.37)	(8.47)	(7.23)	(8.58)
At least weekly but not daily	23.4	18.6	15.1	25.7	17.6	18.0	17.5	30.6	27.8	23.2	10.7	18.2
	(3.87)	(3.67)	(4.30)	(4.69)	(4.97)	(4.88)	(4.56)	(4.84)	(6.94)	(7.82)	(4.89)	(7.27)
Daily	8.0	10.8	17.4	15.8	17.0	4.2	8.5	8.4	11.0	8.6	17.4	11.5
	(2.48)	(2.93)	(4.56)	(3.91)	(4.90)	(2.82)	(3.35)	(2.91)	(4.85)	(5.19)	(6.00)	(6.01)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Interpersonal challenges. There is wider variation across disability categories in the views of youth with disabilities regarding getting along with others at school (table 9) than is evident with regard to facing academic challenges. For example, youth with emotional disturbances are about half as likely as those with orthopedic impairments to report they "never" have trouble getting along with teachers (30 percent vs. 59 percent, $p < .001$). Similarly, youth with emotional disturbances are significantly less likely than those with visual or orthopedic impairments to report "never" having trouble getting along with other students (29 percent vs. 56 percent and 54 percent, respectively; $p < .001$ for both comparisons). No other group differences in these perceptions reach the $p < .01$ level of statistical significance.

A strong affinity with an adult at school is reported by more than 60 percent of youth with hearing, visual, or orthopedic impairments; multiple disabilities; or deaf-blindness, and the rate of strong affiliation with an adult among youth in other categories ranges from 48 percent to 58 percent, with no significant group differences. The exception is youth with mental retardation, who are significantly less likely than youth in any other category to agree “a lot” that they feel close to an adult at school who cares about them (12 percent, $p < .001$ for all comparisons).

Table 9. Youth’s perceptions of interpersonal challenges at school, by disability category

Interpersonal challenges	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage reporting having trouble:												
Getting along with teachers												
Never	44.6	41.6	41.8	30.4	47.1	42.1	59.1	43.4	50.4	52.5	45.3	54.5
	(4.51)	(4.63)	(5.87)	(4.83)	(6.51)	(6.20)	(5.93)	(5.10)	(7.77)	(9.25)	(7.67)	(9.39)
Just a few times	36.9	39.0	31.0	44.1	32.0	46.2	28.9	34.1	25.0	27.8	29.6	29.5
	(4.38)	(4.58)	(5.50)	(5.22)	(6.08)	(6.26)	(5.47)	(4.87)	(6.73)	(8.30)	(7.04)	(8.60)
At least weekly but not daily	14.2	12.2	14.9	16.1	10.1	7.3	6.9	17.3	19.5	15.3	13.8	13.6
	(3.39)	(3.05)	(4.35)	(3.99)	(4.03)	(3.40)	(2.79)	(4.22)	(6.04)	(7.36)	(5.12)	(7.41)
Daily	4.4	7.3	12.3	9.3	10.8	4.4	5.1	5.2	5.2	4.4	11.4	2.4
	(1.86)	(2.44)	(3.91)	(3.05)	(4.04)	(2.57)	(2.65)	(2.28)	(3.45)	(3.80)	(4.90)	(2.89)
Getting along with other students												
Never	40.4	43.2	38.8	29.0	46.9	56.0	53.9	40.6	29.8	49.1	43.2	36.2
	(4.47)	(4.68)	(5.84)	(4.76)	(6.49)	(6.23)	(6.09)	(5.08)	(7.02)	(9.41)	(7.71)	(9.06)
Just a few times	38.6	35.6	31.2	36.2	19.7	26.2	27.0	34.9	37.8	28.5	22.9	34.1
	(4.44)	(4.53)	(5.55)	(5.05)	(5.17)	(5.52)	(5.42)	(4.93)	(7.44)	(8.49)	(6.54)	(8.94)
At least weekly but not daily	12.6	12.7	13.6	19.6	20.5	12.7	11.6	15.2	19.5	14.1	10.8	22.8
	(2.99)	(3.05)	(4.28)	(4.04)	(5.26)	(4.12)	(3.66)	(3.89)	(6.14)	(6.78)	(4.89)	(7.89)
Daily	8.4	8.6	16.4	15.2	12.9	5.1	7.4	9.3	12.9	8.3	23.1	6.9
	(2.53)	(2.65)	(4.44)	(3.77)	(4.36)	(2.76)	(3.20)	(3.00)	(5.14)	(5.19)	(6.56)	(4.78)
Agreement that “there is an adult at school who you feel close to and who cares about you”												
Agree a lot	54.6	48.2	12.3	57.4	60.5	63.5	65.5	58.1	58.2	49.7	66.6	66.2
	(4.54)	(4.75)	(3.94)	(5.20)	(6.37)	(6.03)	(5.66)	(5.10)	(7.63)	(9.36)	(7.32)	(8.92)
Agree a little	30.4	30.2	71.9	26.8	25.5	23.8	26.5	29.2	29.1	36.3	19.0	29.3
	(4.19)	(4.37)	(5.40)	(4.66)	(5.68)	(5.33)	(5.25)	(4.70)	(7.02)	(9.01)	(6.08)	(8.58)
Disagree a little	11.0	12.7	15.4	8.5	7.5	7.7	5.1	8.0	8.5	9.3	8.1	4.5
	(2.85)	(3.17)	(4.33)	(2.93)	(3.43)	(3.34)	(2.62)	(2.81)	(4.31)	(5.44)	(4.23)	(3.91)
Disagree a lot	3.9	8.9	0.4	7.4	6.6	5.0	2.9	4.7	4.3	4.7	6.3	#
	(1.76)	(2.71)	(0.76)	(2.75)	(3.24)	(2.73)	(2.00)	(2.19)	(3.14)	(3.96)	(3.77)	

Rounds to zero.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

School Safety

Youth with disabilities share similar views across disability categories in reported feelings of being "very safe" at school (table 10), ranging from more than half of youth with visual impairments or autism to 36 percent of youth with learning disabilities. However, at the other end of the spectrum of feelings of school safety, youth with emotional disturbances are significantly more likely to report feeling "not very safe" or "not safe at all" at school than youth with visual impairments (13 percent vs. 2 percent, *p* < .01).

Table 10. Youth's reported perceptions of school safety, by disability category

School safety	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percentage / standard error											
Percentage reporting at school they feel:												
Very safe	35.5 (4.35)	37.1 (4.55)	43.9 (5.91)	45.3 (5.25)	46.8 (6.49)	52.0 (6.26)	39.4 (5.91)	37.7 (5.02)	52.6 (7.73)	47.3 (9.47)	45.7 (7.72)	48.3 (9.42)
Pretty safe	56.5 (4.51)	55.5 (4.68)	51.5 (5.96)	41.6 (5.20)	44.8 (6.47)	45.7 (6.24)	55.3 (6.01)	55.3 (5.15)	43.4 (7.67)	47.4 (9.47)	42.7 (7.66)	47.2 (9.41)
Not very or not at all safe	7.9 (2.45)	7.4 (2.46)	4.6 (2.50)	13.1 (3.56)	8.4 (3.61)	2.3 (1.88)	5.3 (2.71)	7.1 (2.66)	4.0 (3.03)	5.2 (4.21)	11.6 (4.96)	4.5 (3.91)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Affiliation With School

Although the percentages of youth with disabilities who report feeling part of their school "a lot" cluster between 25 percent and 38 percent across most disability categories (table 11), almost half of youth with visual impairments (48 percent) report that feeling, in contrast with the 23 percent of youth with other health impairments who indicate that level of affiliation with their school (*p* < .001). Feeling "not at all" affiliated with school is reported by 15 percent of youth with emotional disturbances, significantly more than the 2 percent of youth with hearing impairments or deaf-blindness who do so (*p* < .01). Youth with hearing impairments also are less likely than those with other health impairments to report this low level of affiliation (*p* < .01).

Youth with visual impairments join those with hearing impairments in having more than 60 percent of youth participating in organized extracurricular activities at schools. In contrast, 34 percent or fewer of youth with mental retardation, emotional disturbances, or autism report taking part in extracurricular activities at school (*p* < .01 for comparisons with youth with autism; *p* < .001 for other comparisons).

The frequency with which youth report being involved at school "every time I have the chance" ranges from 34 percent of youth with multiple disabilities to 13 percent of those with emotional disturbances. More than 40 percent of youth with emotional disturbances or autism say they never get involved at school "even when they have the chance" (42 percent and 46 percent, respectively). These rates are significantly higher than the 13 percent and 15 percent of youth with hearing impairments or deaf-blindness, respectively, who also are unlikely to participate at school when they have a chance ($p < .01$ compared with youth with deaf-blindness; $p < .001$ compared with youth with hearing impairments).

Table 11. Youth's reported affiliation with school, by disability category

Affiliation with school	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage reporting they feel part of school:												
A lot	29.8 (4.15)	29.8 (4.29)	37.9 (5.80)	29.1 (4.76)	36.3 (6.22)	48.2 (6.23)	37.7 (5.86)	23.2 (4.34)	25.1 (6.66)	24.7 (8.02)	36.8 (7.43)	36.5 (9.08)
Pretty much	38.1 (4.40)	43.4 (4.65)	25.5 (5.21)	26.7 (4.64)	30.4 (5.95)	28.7 (5.64)	28.8 (5.47)	36.0 (4.94)	35.5 (7.35)	49.9 (9.30)	28.4 (6.95)	36.5 (9.08)
A little	22.6 (3.79)	20.6 (3.79)	27.8 (5.35)	29.3 (4.77)	31.1 (5.99)	16.9 (4.67)	25.0 (5.23)	27.9 (4.61)	28.1 (6.91)	20.3 (7.48)	26.0 (6.76)	24.7 (8.13)
Not at all	9.6 (2.67)	6.2 (2.26)	8.9 (3.40)	14.8 (3.72)	2.3 (1.94)	6.2 (3.01)	8.6 (3.39)	12.9 (3.45)	11.4 (4.88)	5.1 (4.09)	8.9 (4.39)	2.2 (2.77)
Percentage participating in organized extracurricular group activities at school	45.8 (4.53)	47.0 (4.70)	29.7 (5.48)	32.2 (4.93)	61.8 (6.31)	65.0 (5.98)	44.1 (6.02)	41.8 (5.11)	34.0 (7.31)	39.7 (9.15)	51.0 (7.73)	58.2 (9.42)
Percentage reporting participating at school:												
Every time they have the chance	19.7 (3.96)	18.8 (3.93)	22.2 (5.93)	13.2 (3.96)	29.1 (6.14)	27.8 (6.76)	15.0 (4.86)	16.4 (4.13)	15.9 (6.03)	16.5 (7.20)	33.8 (8.41)	25.4 (8.61)
Most of the time when they have the chance	24.0 (4.25)	23.0 (4.23)	19.8 (5.69)	18.7 (4.57)	28.2 (6.08)	29.6 (6.89)	21.6 (5.59)	16.6 (4.16)	9.5 (4.84)	13.3 (6.58)	28.7 (8.04)	24.5 (8.51)
Sometimes when they have the chance	28.8 (4.51)	30.6 (4.64)	21.1 (5.82)	26.2 (5.15)	30.3 (6.21)	19.6 (5.99)	36.1 (6.53)	41.1 (5.49)	28.8 (7.47)	42.7 (9.59)	9.0 (5.08)	35.0 (9.43)
Not even when they have the chance	27.6 (4.44)	27.6 (4.50)	36.9 (6.88)	42.0 (5.78)	12.5 (4.47)	23.0 (6.35)	27.3 (6.06)	25.9 (4.89)	45.7 (8.21)	27.5 (8.66)	28.6 (8.03)	15.1 (7.07)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Enjoyment of School

Half or more of youth with mental retardation or multiple disabilities report they enjoy school "a lot" (table 12). However, at 23 percent and 21 percent, youth with emotional disturbances or other health impairments are significantly less likely than these groups to enjoy school "a lot" ($p < .01$ comparing youth with emotional disturbances and multiple disabilities; $p < .001$ comparing youth with other health impairments and multiple disabilities and comparing both groups with youth with mental retardation). Between 25 percent and 37 percent of youth in most other categories report they enjoy school "a lot."

Table 12. Youth's reported enjoyment of school, by disability category

Enjoyment of school	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage reporting they enjoy school:												
A lot	25.3 (3.93)	27.0 (4.17)	52.3 (5.94)	22.8 (4.38)	29.3 (5.89)	37.2 (6.03)	34.0 (5.72)	20.9 (4.18)	31.4 (7.11)	25.7 (8.09)	50.4 (7.75)	43.4 (9.34)
Pretty much	43.2 (4.48)	46.0 (4.68)	21.4 (4.88)	29.5 (4.77)	37.6 (6.27)	38.5 (6.07)	42.6 (5.98)	41.0 (5.06)	40.2 (7.51)	42.2 (9.15)	21.9 (6.41)	40.8 (9.27)
A little	19.5 (3.58)	20.0 (3.75)	19.5 (4.71)	31.0 (4.83)	23.6 (5.50)	16.9 (4.67)	16.6 (4.50)	26.5 (4.54)	20.7 (6.20)	28.5 (8.36)	18.6 (6.03)	11.3 (5.97)
Not at all	12.0 (2.94)	7.0 (2.39)	6.8 (2.99)	16.6 (3.89)	9.5 (3.80)	7.4 (3.26)	6.9 (3.06)	11.7 (3.30)	7.7 (4.08)	3.5 (3.40)	9.2 (4.48)	4.5 (3.91)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Demographic Differences in Perceptions of School Experiences

Youth with disabilities with various demographic characteristics do not differ significantly in their perceptions of school. No gender or racial/ethnic differences are apparent, nor do reported perceptions differ for youth from households with low, moderate, or higher incomes. However, one perception does differ across age cohorts. Specifically, the oldest cohort of youth, 19-year-olds, who were still in secondary school in the preceding year are significantly less likely than 15- and 16-year-olds to report participating in organized school activities outside of class (20 percent vs. 49 percent, $p < .001$).

Summary

This chapter has described a number of perceptions youth with disabilities report regarding their schooling, including views of their academic and interpersonal challenges, school safety, the services and supports they receive, and their affiliation with and enjoyment of school. On all measures, there are youth with disabilities who express the full range of views, from strongly positive to strongly negative. However, on virtually all measures, positive views predominate, and strongly negative views are held by a minority.

For example, the majority of youth with disabilities report not finding school particularly hard, and most say they do not have more than occasional problems completing homework, paying attention, or getting along with teachers or other students. Most indicate they find school at least "pretty safe," and most report feeling at least "pretty much" a part of their school. Almost half agree "a lot" that they receive the services and supports they need to succeed at school, and the majority report liking school at least "pretty much." The most negative views (e.g., having daily problems at school, finding school "very hard," or not liking or feeling part of school "at all") are held by 1 percent to 11 percent of youth with disabilities across measures, with one exception—about one-third of youth with disabilities report they are not involved at school, even when they have the chance.

Other than perceptions of school safety, youth with disabilities are more likely to express negative views of certain school experiences than their peers in the general population. However, regarding their overall enjoyment of school, youth with disabilities are more likely to express both strongly liking and strongly disliking school.

Although there are few differences in perceptions of school associated with variations in demographic characteristics of youth, some differences are apparent across disability categories. In general, there is greater variation across categories in youth's reports of having interpersonal challenges at school than of academic challenges; the greatest variability is evident in youth liking school "a lot." In a few cases, one category of youth stands out from virtually all others, as in the low rate at which youth with mental retardation report having a familiar and caring adult at school and the low rate of affiliation with and involvement in school reported by youth with emotional disturbances.

5. Views of Personal Relationships

Considerable research has documented the importance of personal relationships as “protective factors”[1] against a variety of adolescent risk behaviors. For example, results regarding factors associated with emotional health, youth violence, substance use, and sexuality from the National Longitudinal Study on Adolescent Health (Add Health), the largest, most comprehensive survey of adolescents to date, provide “consistent evidence that perceived caring and connectedness to others is important in understanding the health of young people today” (Resnick et al. 1997, p. 830). Similarly, the World Health Organization (WHO) reports from a synthesis of evidence from 52 countries that positive relationships with parents and with other adults protect adolescents against early engagement in sexual activity, substance use, and depression (World Health Organization 2002). However, some adolescents find it difficult to establish positive relationships with adults and/or peers, including some youth with disabilities (Gresham and MacMillan 1997; Marder, Wagner, and Sumi 2003; Nowicki 2003).

NLTS2 provides the first opportunity to examine the personal relationships reported by youth with disabilities.[2] This chapter examines the views they report regarding their relationships with their families and friends and with other adults, and the extent they rely on these people for support. Results are reported for youth with disabilities as a group and as they differ for youth across disability categories. Differences for selected demographic subgroups are reported when they are statistically significant. Comparisons also are made with youth in the general population when data are available.

Views of Relationships With Others[3]

Parents and family. WHO, in its 52-country research synthesis of factors related to adolescent health (World Health Organization 2002) has concluded that “families matter” in reducing the likelihood that adolescents will engage in substance abuse or early sexual activity and experience depression. Specifically, youth who form a positive relationship with parents and have parents who encourage self-expression are less likely to engage in these behaviors, whereas living in a family that experiences conflict is associated with a higher likelihood of risk-taking behavior. Positive parental relationships are thought to have this kind of effect because they provide a general sense of stability, a positive emotional bond, a structure of expectations for positive behavior, and an openess to guidance, training, monitoring, and supervision (Ferguson 2004). These findings are mirrored in a variety of studies in the United States (e.g., Jaccard, Dittus, and Gordon 1996; Jordan and Lewis 2005; Miller 1998; Smith et al. 1995). Reporting data from Add Health, Blum and Rinehart (1997) report that parent and child “connectedness,” defined as the “degree of closeness, caring, and satisfaction with parental relationships [and]

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[1] Protective factors have been defined as “those aspects of the individual and his or her environment that buffer or moderate the effect of risk” (U.S. Department of Health and Human Services 2001).

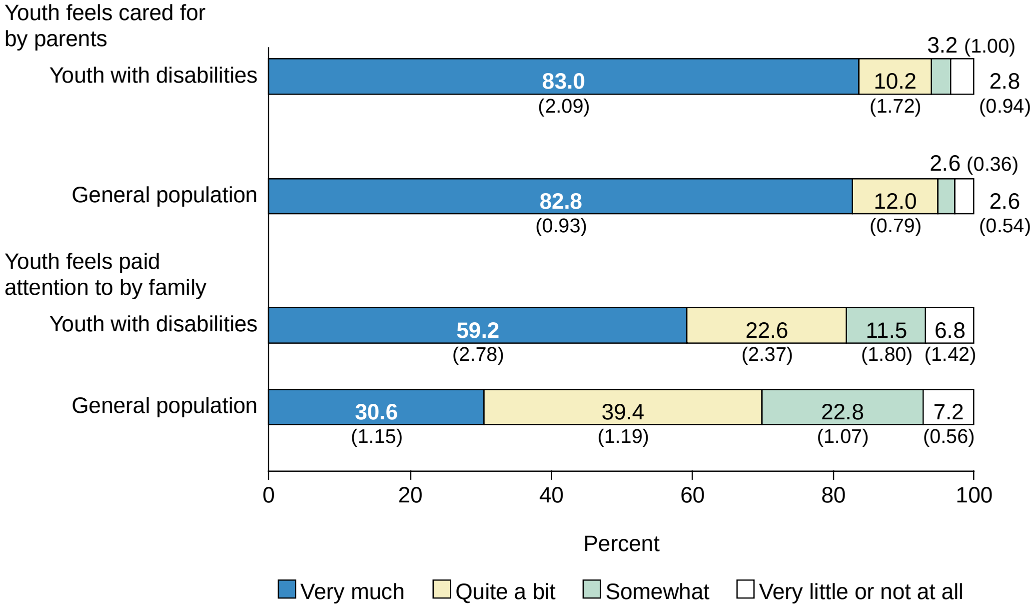
[2] Readers are reminded that findings are national estimates for the subsample of youth with disabilities who could report their own perceptions and expectations, not a sample of all youth with disabilities in the NLTS2 age range. See chapter 1 for further details on the group that is the focus of this report.

[3] All general population findings in this section are calculated using youth interview data for 15- through 19-year-olds from Wave II of The National Longitudinal Study of Adolescent Health (Add Health) (Udry 1998). NLTS2 and Add Health items and response categories for these variables are identical.

feeling understood, loved, wanted, and paid attention to by family members" (p. 15) is a significant positive factor that relates to greater emotional health among adolescents and a lower likelihood of involvement in violence, substance use, and early sexual activity.

Youth were asked to communicate the extent to which they feel cared about and paid attention to by their families, based on a 5-point scale—"very much" (5-points), "quite a bit," "somewhat," or "very little" or "not at all" (1 point). According to their own reports; more than 80 percent of youth with disabilities and youth in the general population feel that their parents care about them "very much" (figure 15); only 3 percent of each group report feeling their parents care about them "very little" or "not at all." Youth with disabilities are less likely to report that their family pays "very much" attention to them (59 percent) than that they are cared about "very much" ($p < .001$). Nonetheless, youth with disabilities are significantly more likely than youth in the general population to report a high level of attention from parents ($p < .001$). Feeling cared about and paid attention to are related; values on the 5-point response scale for the two items are correlated ($r = .49$, $p < .001$).

Figure 15. Youth with disabilities' reported feelings of being cared about by parents and paid attention to by their families

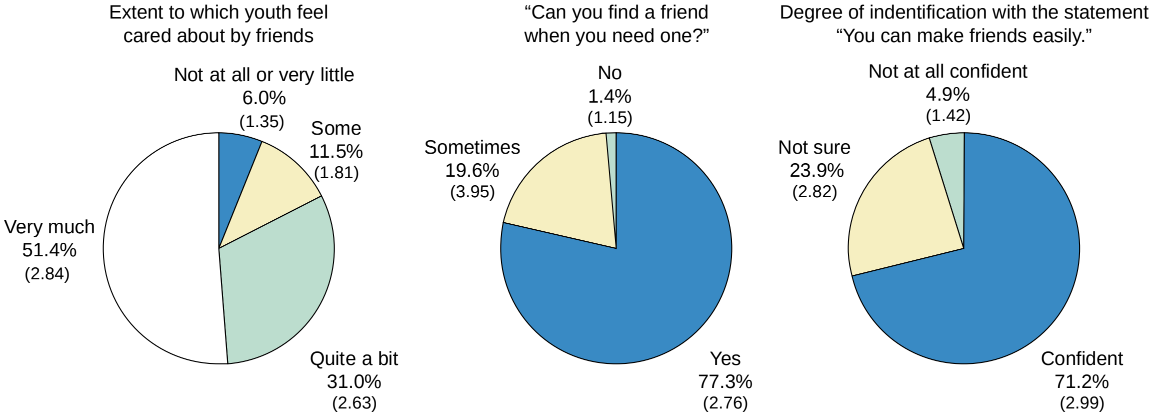


NOTE: Response categories "very little" and "not at all" have been collapsed for reporting purposes. Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; National Institute of Child Health and Human Development, The National Longitudinal Survey of Adolescent Health (Add Health), Wave II youth interviews, 1996.

Friends. Relationships with friends also have been found to be associated with youth behaviors in either a prosocial or antisocial direction (e.g., Boyce and Rose 2002; Smith et al. 1995). An examination of youth's perceptions of being cared about by friends reveals that their views are quite similar to their reports of being cared about by adults; 51 percent of both youth with disabilities and youth in the general population say friends care about them "very much" and about one-third (31 percent and 34 percent, respectively) say they are cared about "quite a bit." Six percent and 2 percent of the two groups report being cared about by friends "very little" or "not at all." Further, a large majority of youth with disabilities (77 percent) believe they can "find a friend" when they need one (figure 16). In addition, almost three-fourths (71 percent) of youth with disabilities feel confident that they "can make friends easily," whereas 5 percent indicate they are not confident of that at all.

Figure 16. Youth with disabilities' reported views of friends



NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), youth in-person interviews, 2002 and 2004, and Wave 2 youth telephone interview/mail survey, 2003.

Correlations between these views of friendships are statistically significant. Youth with disabilities who report feeling cared about by friends also tend to say they can make friends easily and find a friend when they need one (r = .22 and .18, $p < .001$), and those report being able to make friends easily also are more likely to stay they can find a friend when they need one (r = .27, $p < .001$).

Sources of Support[4]

Given the variety of developmental changes and challenges youth face in adolescence (Dacey, Kenny, and Margolis 2000), many rely on others—family and friends, school staff, and other adults—for support in making choices and coping with stressors, as described below. To assess their patterns of sources of support, youth with disabilities were asked to respond to the following: "Let me read you a list of some kinds of people that someone might turn to when

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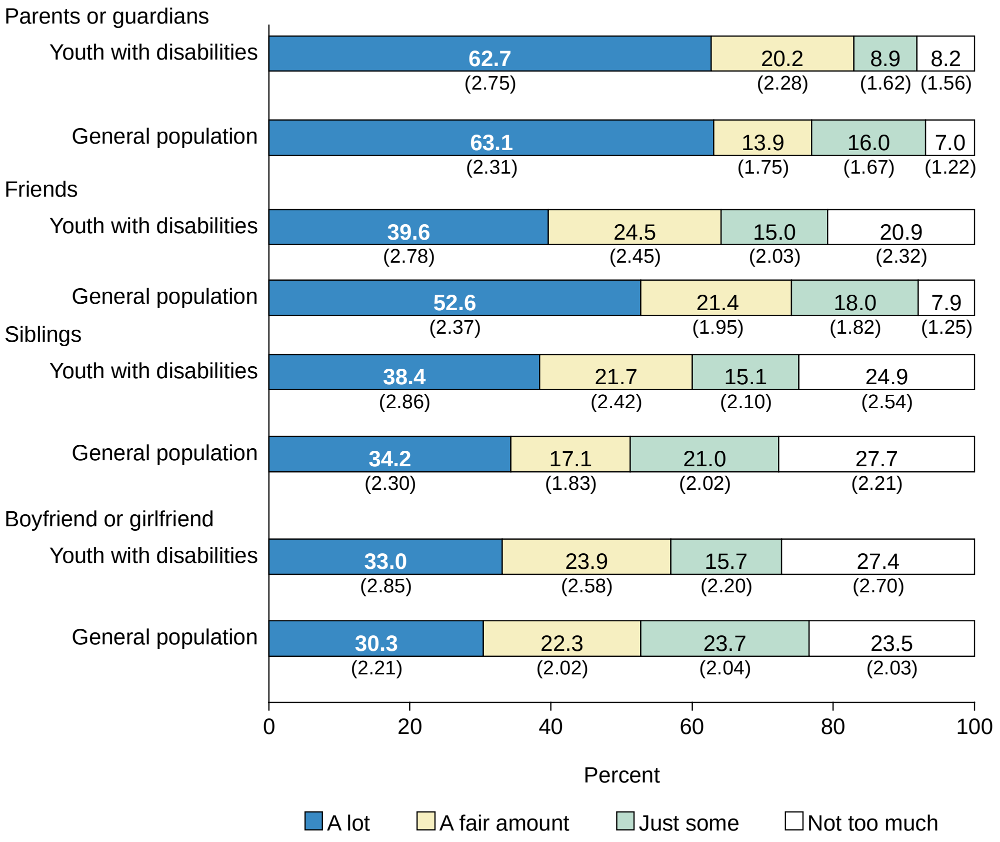
[4] General education comparisons in this section use data from The Shell Poll (Shell Oil Company 1999). NLTS2 and Shell Poll items and response categories for these variables are identical.

making important decisions or facing problems. Please tell me whether you personally rely on this type of person a lot, a fair amount, just some, or not too much."

Reliance on family and friends. Youth with disabilities indicate that when making important decisions or facing problems, they most often rely on their family members and friends for support (figure 17). Parents are by far the most common source of support; almost two-thirds of youth with disabilities (63 percent) indicate they rely on their parents "a lot," and another 20 percent say they rely on them "a fair amount." Approximately 40 percent of youth indicate they rely on friends and siblings "a lot," and between 20 percent and 25 percent report they rely on them "a fair amount." Girlfriends and boyfriends also are relied on frequently, with one-third of youth indicating they rely on them "a lot," and one-fourth saying they rely on them "a fair amount" for decisionmaking and problem-solving assistance.

Figure 17. Reported extent of youth's reliance on family and friends for support



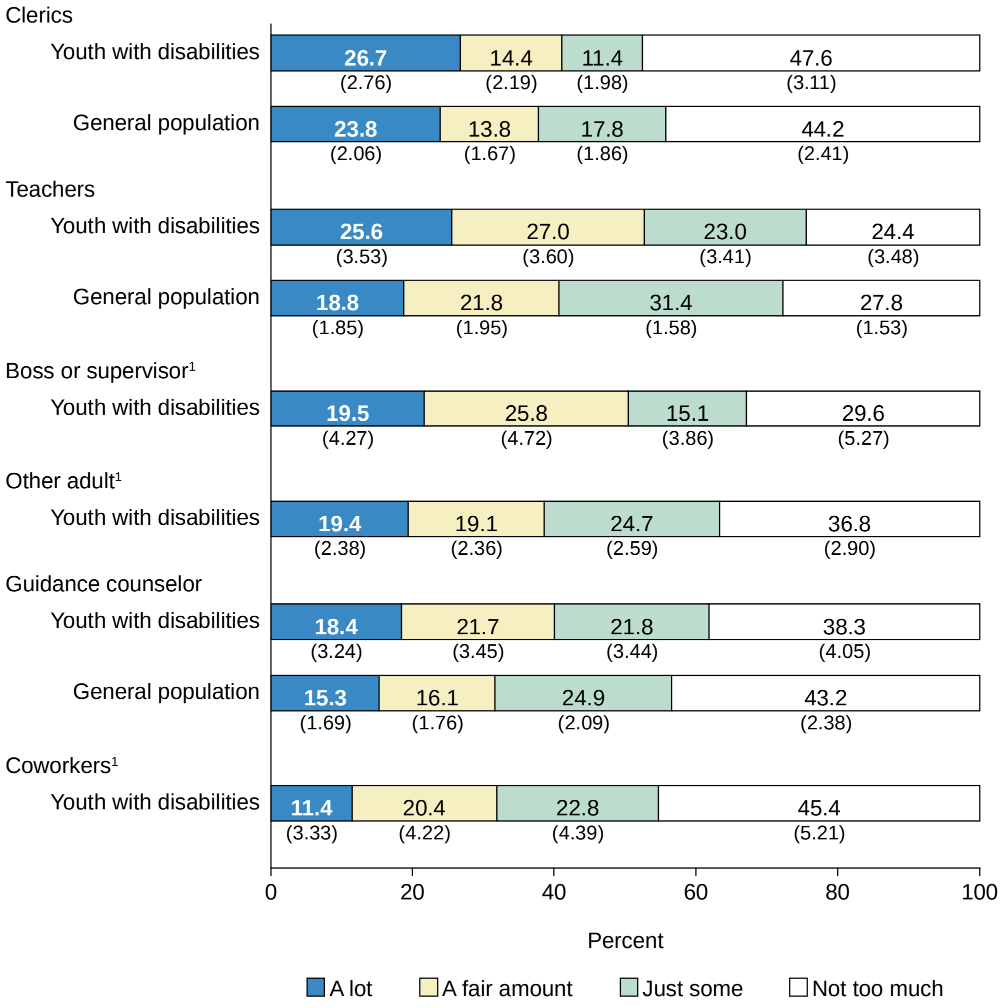
NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; Shell Oil Company, The Shell Poll, 1999.

Comparisons between youth with disabilities and youth in the general population in the extents to which they report relying on family members and friends revealed only one statistically significant difference. Among youth with disabilities, 40 percent indicate they rely on friends “a lot,” significantly fewer than the 53 percent of youth in the general population who do so ($p < .001$).

Reliance on others. Other adults with whom youth have repeated contact—teachers, for youth who are in school, and clerics, for youth who have a religious affiliation—are relied on “a lot” by about one-fourth of youth (figure 18). About one-fifth of youth who are in school rely on guidance counselors “a lot,” and a similar proportion of working youth rely on their boss or supervisor to that degree; other adults are a frequent source of support for about one-fifth of youth with disabilities. Coworkers are not a common source of support. There are no statistically significant differences between youth with disabilities and youth in the general population in their degrees of reliance on people in these roles.

Figure 18. Reported extent of youth’s reliance on persons outside their family



[1] Comparison data are not available for youth in the general population.

NOTE: Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; Shell Oil Company, The Shell Poll, 1999.

Disability Category Differences in Views of Personal Relationships

Perceptions of Relationships With Others

Familial relationships. The percentage of youth with disabilities who feel cared about by parents “a lot” ranges from 76 percent of youth with autism to more than 90 percent of youth with orthopedic impairments (table 13). There is somewhat more variation in the amount of attention youth feel comes from their family. Although the percentages of youth who feel that their family pays “a lot” of attention to them range from 56 percent to 65 percent across most categories, exceptions are the 50 percent of youth with emotional disturbances and the 51 percent of youth with other health impairments. Youth in both disability categories are significantly less likely to report feeling that their family pays “a lot” of attention to them than are youth with multiple disabilities (72 percent; $p < .01$ for both comparisons). About 1 in 10 youth with autism, mental retardation, or emotional disturbances say their families pay attention to them “very little” or “not at all”; in the case of the latter group, this is significantly more than the 1 percent of youth with orthopedic impairments who report those feelings ($p < .01$).

Table 13. Youth’s reported perceptions of being cared about by parents and paid attention to by their families

Care and attention	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Youth feel cared about by parents												
A lot	84.8 (3.06)	88.7 (2.82)	81.3 (4.54)	79.6 (3.74)	85.6 (4.31)	85.9 (4.38)	91.2 (3.25)	80.7 (3.70)	75.5 (6.38)	85.8 (6.29)	87.3 (4.95)	81.4 (7.02)
Quite a bit	10.7 (2.63)	7.9 (2.40)	4.8 (2.49)	12.0 (3.01)	11.2 (3.87)	9.7 (3.73)	7.1 (2.95)	13.5 (3.20)	14.8 (5.27)	8.6 (5.05)	10.8 (4.62)	12.4 (5.95)
Some	1.8 (1.14)	1.9 (1.22)	5.8 (2.72)	4.3 (1.88)	3.1 (2.12)	2.4 (1.91)	1.4 (1.33)	5.0 (2.04)	6.1 (3.54)	4.7 (3.79)	1.6 (1.84)	2.0 (2.55)
Very little or not at all	2.7 (1.37)	1.5 (1.09)	8.1 (3.18)	4.0 (1.82)	0.1 (0.46)	2.0 (1.77)	0.4 (0.72)	0.7 (0.80)	3.6 (2.78)	1.0 (1.78)	0.4 (0.90)	4.2 (3.63)
Youth feel paid attention to by family												
A lot	60.4 (4.17)	55.8 (4.42)	64.9 (5.53)	49.6 (4.62)	58.6 (6.06)	55.7 (6.27)	63.8 (5.52)	50.9 (4.68)	51.9 (7.45)	60.6 (8.83)	72.4 (6.63)	56.3 (8.95)
Quite a bit	22.0 (3.53)	30.2 (4.08)	15.2 (4.16)	27.2 (4.11)	29.3 (5.60)	30.1 (5.79)	22.3 (4.79)	30.6 (4.31)	23.2 (6.29)	17.6 (6.89)	15.3 (5.34)	24.7 (7.79)
Some	11.7 (2.74)	9.8 (2.64)	9.3 (3.36)	13.3 (3.14)	7.4 (3.22)	9.2 (3.65)	12.4 (3.79)	12.1 (3.05)	15.1 (5.34)	14.6 (6.38)	6.4 (3.62)	10.6 (5.56)
Very little or not at all	5.8 (2.00)	4.2 (1.78)	10.7 (3.58)	9.9 (2.76)	4.7 (2.61)	5.0 (2.75)	1.4 (1.36)	6.4 (2.29)	9.7 (4.42)	7.2 (4.67)	5.9 (3.50)	8.3 (4.98)

NOTE: Response categories “very little” and “not at all” have been collapsed for reporting purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Friend relationships. Just as they are among the most likely to report very little or no attention from parents, at 12 percent, youth with mental retardation are more likely than youth in two categories to report feeling cared about by friends “very little” or “not at all” (*p* < .001 compared with youth with visual impairments; *p* < .01 compared with youth with learning disabilities; table 14). Thirty-eight to 62 percent of youth report feeling cared about “a lot” by friends; the only statistically significant difference is between youth with visual impairments and youth with autism (62 percent vs. 38 percent, *p* < .01). Between 2 percent and 10 percent of youth in most disabilities report feeling cared about “very little” or “not at all” by friends; youth with mental retardation exceed this range, reporting this perception significantly more often than youth with visual impairments (18 percent vs. 2 percent, *p* < .001).

There are few differences across categories in the extent to which youth report they can find a friend when they need one; from 71 percent to 82 percent of youth across most categories report that view. The exceptions are youth with autism or traumatic brain injuries, among whom 47 percent and 59 percent, respectively, report they can find a friend; this rate for youth with autism is significantly lower than for youth in most other categories (*p* < .001 compared with youth with learning disabilities or hearing or speech/language impairments; *p* < .01 compared with youth with emotional disturbances; visual, orthopedic, or other health impairments; or multiple disabilities).

The greatest variation across categories is apparent regarding youth’s confidence that they “can make friends easily.” Seventy percent or more of youth with learning disabilities, emotional disturbances, mental retardation, or hearing impairments report they are confident they can, whereas 39 percent of youth with autism report that feeling (*p* < .001 for comparisons with youth with learning disabilities or emotional disturbances, *p* < .01 for comparisons with youth with mental retardation or hearing impairments). With the exceptions of youth with mental retardation or hearing or orthopedic impairments, youth with autism are more likely than youth in all other categories to say they are “not at all confident” they can make friends easily (*p* < .001 for all comparisons).

Table 14. Youth’s reported perceptions of relationships with friends, by disability category

Relationships	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Youth feel cared about by friends												
A lot	52.9 (4.25)	50.9 (4.68)	50.4 (5.86)	42.9 (4.61)	48.0 (6.14)	62.1 (6.16)	59.8 (5.62)	49.6 (4.62)	37.5 (7.17)	56.7 (8.92)	59.5 (7.25)	49.2 (9.12)
Quite a bit	34.0 (4.03)	30.6 (4.31)	18.4 (4.54)	30.4 (4.28)	31.9 (5.72)	27.6 (5.68)	26.2 (5.04)	27.2 (4.11)	31.8 (6.90)	27.0 (7.99)	21.5 (6.07)	29.6 (8.33)
Some	9.7 (2.52)	12.1 (3.05)	13.0 (3.94)	17.9 (3.57)	15.3 (4.42)	8.7 (3.58)	8.5 (3.20)	13.3 (3.14)	23.9 (6.32)	6.0 (4.28)	8.6 (4.14)	16.9 (6.84)
Very little or not at all	3.4 (1.54)	6.4 (2.29)	18.2 (4.52)	8.8 (2.64)	4.8 (2.63)	1.5 (1.54)	5.5 (2.61)	9.9 (2.76)	6.8 (3.73)	10.3 (5.47)	10.4 (4.51)	4.7 (2.61)

See notes at end of table.

Table 14. Youth's reported perceptions of relationships with adults and friends, by disability category—Continued

Relationships	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Response to question "Can you find a friend when you need one?"												
Yes	79.0	78.3	70.5	77.0	81.6	80.3	78.6	73.8	47.2	58.6	79.2	72.5
	(4.05)	(4.14)	(6.48)	(4.93)	(5.22)	(5.98)	(5.57)	(4.89)	(8.28)	(9.59)	(7.22)	(8.83)
Sometimes	19.6	21.4	25.2	20.1	14.5	19.7	20.6	22.9	45.1	37.7	19.3	22.4
	(3.95)	(4.13)	(6.17)	(4.70)	(4.74)	(5.97)	(5.49)	(4.68)	(8.25)	(9.43)	(7.02)	(8.25)
No	1.4	0.3	4.3	2.9	3.9	0.1	0.8	3.3	7.7	3.7	1.5	5.1
	(1.15)	(0.52)	(2.89)	(1.95)	(2.61)	(0.44)	(1.21)	(1.99)	(4.43)	(3.69)	(2.16)	(4.34)
Confidence that youth "can make friends easily"												
Confident	73.3	66.0	70.3	71.2	69.5	58.7	62.0	63.2	38.8	61.5	67.6	59.2
	(4.41)	(4.77)	(6.56)	(5.31)	(6.23)	(7.49)	(6.61)	(5.37)	(8.05)	(9.44)	(8.33)	(9.84)
Not sure	23.0	30.2	21.3	22.7	23.4	37.7	28.5	32.2	33.9	37.9	27.5	35.8
	(4.19)	(4.63)	(5.88)	(4.90)	(5.73)	(7.37)	(6.14)	(5.20)	(7.82)	(9.41)	(7.95)	(9.6)
Not at all confident	3.8	3.8	8.4	6.2	7.0	3.6	9.5	4.7	27.4	0.6	4.8	5.0
	(1.90)	(1.92)	(3.97)	(2.82)	(3.46)	(2.84)	(3.99)	(2.35)	(7.36)	(1.49)	(3.82)	(4.38)

NOTE: Response categories "very little" and "not at all" have been collapsed for reporting purposes.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; youth in-person interviews, 2002 and 2004.

Sources of Support

There are statistically significant differences across disability categories in the degree to which youth rely on family and friends and on others in the community.

Reliance on family and friends. Across disability categories, from 58 percent to 82 percent of youth indicate they rely on parents for support "a lot" (table 15). Youth with multiple disabilities are more likely to report this level of reliance than youth with learning disabilities, emotional disturbances, or speech/language or other health impairments ($p < .01$ for all comparisons).

In contrast, fewer than half of youth in all categories but traumatic brain injuries indicate "a lot" of reliance on friends. Youth in this latter category join youth with visual or speech/language impairments in being significantly more likely to report this level of reliance on friends than are youth with autism or deaf-blindness (23 percent and 21 percent, respectively; $p < .01$ for all comparisons).

Table 15. Reported extent of youth's reliance on family and friends, by disability category

Reliance for support	Learning disability	Speech/language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Youth rely on parents:												
A lot	59.9	62.6	75.6	62.0	57.8	68.5	73.8	59.1	68.9	61.7	82.1	68.1
	(4.19)	(4.32)	(4.99)	(4.53)	(6.06)	(5.87)	(5.05)	(4.62)	(6.89)	(8.78)	(5.67)	(8.50)
A fair amount	22.9	22.8	7.3	19.4	21.2	18.9	13.3	23.0	13.4	14.4	9.2	17.1
	(3.59)	(3.75)	(3.02)	(3.69)	(5.02)	(4.95)	(3.90)	(3.96)	(5.07)	(6.34)	(4.27)	(6.87)
Just some	9.7	6.8	7.8	8.5	6.8	6.6	9.0	6.4	12.7	15.9	3.4	10.7
	(2.53)	(2.25)	(3.12)	(2.60)	(3.09)	(3.14)	(3.29)	(2.30)	(4.96)	(6.61)	(2.68)	(5.64)
Not too much	7.5	7.8	9.3	10.1	14.2	6.0	4.0	11.4	5.0	8.0	5.3	4.2
	(2.25)	(2.39)	(3.38)	(2.81)	(4.28)	(3.00)	(2.25)	(2.99)	(3.25)	(4.90)	(3.31)	(3.66)
Youth rely on friends:												
A lot	41.2	46.5	32.1	37.9	31.6	47.7	43.1	38.7	22.6	52.7	35.6	21.4
	(4.22)	(4.49)	(5.44)	(4.53)	(5.71)	(6.29)	(5.75)	(4.57)	(6.30)	(9.02)	(7.10)	(7.48)
A fair amount	28.5	22.1	12.2	19.8	28.0	25.4	15.7	19.7	12.7	21.5	19.1	36.3
	(3.87)	(3.73)	(3.81)	(3.72)	(5.51)	(5.48)	(4.22)	(3.73)	(5.02)	(7.42)	(5.83)	(8.77)
Just some	12.5	13.8	22.8	17.1	18.5	10.5	21.8	19.6	32.0	12.0	15.0	23.2
	(2.84)	(3.10)	(4.88)	(3.52)	(4.77)	(3.86)	(4.79)	(3.72)	(7.03)	(5.87)	(5.30)	(7.70)
Not too much	17.9	17.6	32.9	25.1	21.8	16.4	19.4	22.0	32.7	13.9	30.2	19.2
	(3.29)	(3.43)	(5.47)	(4.05)	(5.07)	(4.66)	(4.59)	(3.89)	(7.07)	(6.25)	(6.81)	(7.19)
Youth rely on siblings:												
A lot	36.9	35.4	45.6	42.9	30.6	36.9	36.3	31.4	25.2	41.4	47.4	26.6
	(4.29)	(4.37)	(5.95)	(4.91)	(5.82)	(6.55)	(5.76)	(4.59)	(6.75)	(9.27)	(7.68)	(8.24)
A fair amount	24.2	23.3	16.2	15.1	23.7	23.5	13.8	16.9	20.7	19.5	23.7	24.5
	(3.81)	(3.86)	(4.40)	(3.55)	(5.37)	(5.76)	(4.13)	(3.70)	(6.30)	(7.45)	(6.54)	(8.02)
Just some	15.8	14.1	12.0	11.4	24.0	19.6	23.0	22.1	18.9	11.3	7.5	20.0
	(3.24)	(3.18)	(3.88)	(3.15)	(5.39)	(5.39)	(5.04)	(4.10)	(6.08)	(5.96)	(4.05)	(7.46)
Not too much	23.1	27.1	26.1	30.6	21.7	20.0	27.0	29.6	35.1	27.8	21.4	28.9
	(3.75)	(4.06)	(5.25)	(4.57)	(5.21)	(5.43)	(5.31)	(4.51)	(7.42)	(8.43)	(6.31)	(8.45)
Youth rely on a boy- or girlfriend:												
A lot	32.6	32.7	30.2	37.3	25.1	31.5	35.4	36.3	18.8	39.5	38.5	29.4
	(4.22)	(4.52)	(5.88)	(4.95)	(5.63)	(6.77)	(5.83)	(4.93)	(6.91)	(9.65)	(7.83)	(8.59)
A fair amount	25.8	20.9	20.1	23.0	25.6	23.1	12.5	18.4	11.1	13.7	14.8	13.7
	(3.94)	(3.92)	(5.14)	(4.31)	(5.67)	(6.14)	(4.03)	(3.97)	(5.56)	(6.79)	(5.71)	(6.48)
Just some	17.1	15.1	13.3	12.2	15.2	16.7	9.7	15.4	13.4	16.1	9.8	9.2
	(3.39)	(3.45)	(4.35)	(3.35)	(4.66)	(5.44)	(3.61)	(3.70)	(6.03)	(7.26)	(4.78)	(5.45)
Not too much	24.4	31.2	36.3	27.6	34.0	28.7	42.4	29.9	56.6	30.6	36.8	47.7
	(3.86)	(4.47)	(6.16)	(4.58)	(6.15)	(6.59)	(6.02)	(4.69)	(8.77)	(9.10)	(7.76)	(9.42)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

The extent to which youth rely "a lot" on siblings does not significantly differ across categories. From 25 percent of youth with autism to 47 percent of youth with traumatic brain injuries rely "a lot" on siblings; none of the disability group differences are statistically significant.

From 19 percent of youth with autism to 40 percent of youth with traumatic brain injuries say they rely “a lot” on a boyfriend or girlfriend. None of the disability category comparisons indicate statistically significant differences between groups in the percentage of youth who report relying on a boyfriend or girlfriend “a lot.”

Reliance on others. There is greater variability across disability categories in the degree to which youth rely on teachers than on people in other nonfamilial roles (table 16). Percentages reporting they rely on teachers “a lot” range from 12 percent of youth with speech/language impairments to 45 percent of youth with mental retardation, the only significant difference in this level of reliance on teachers across categories ($p < .001$). Reliance on clerics “a lot” ranges from 9 percent among youth with hearing impairments to 31 percent among those with mental retardation; the difference between these two groups, as well as between youth with learning

Table 16. Reported extent of youth’s reliance on persons other than family and friends for support, by disability category

Reliance for support	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
In-school youth rely on teachers:												
A lot	23.9 (5.05)	12.1 (3.70)	45.2 (8.37)	22.1 (5.57)	27.4 (8.60)	20.6 (5.89)	38.1 (7.62)	24.0 (5.63)	36.2 (9.93)	23.1 (8.99)	28.8 (9.36)	‡
A fair amount	30.2 (5.43)	31.5 (5.27)	11.5 (5.36)	22.4 (5.60)	14.7 (6.83)	36.7 (7.02)	28.1 (7.05)	23.3 (5.57)	21.0 (8.42)	18.1 (8.22)	24.9 (8.93)	‡
Just some	23.8 (5.04)	22.0 (4.70)	23.9 (7.17)	17.5 (5.10)	27.7 (8.63)	21.0 (5.94)	12.0 (5.10)	26.6 (5.83)	25.8 (9.04)	22.3 (8.88)	13.3 (7.02)	‡
Not too much	22.1 (4.91)	34.4 (5.39)	19.4 (6.65)	38.0 (6.52)	30.3 (8.86)	21.8 (6.02)	21.9 (6.49)	26.1 (5.79)	17.1 (7.78)	36.5 (10.27)	33.0 (9.71)	‡
Youth rely on clerics:												
A lot	27.9 (4.19)	24.5 (4.11)	30.7 (5.83)	20.6 (4.31)	9.0 (3.75)	18.2 (5.44)	24.1 (5.24)	25.3 (4.69)	13.8 (5.61)	28.5 (9.06)	23.7 (7.03)	‡
A fair amount	13.4 (3.18)	20.5 (3.86)	13.2 (4.28)	16.1 (3.91)	13.9 (4.53)	19.1 (5.54)	11.6 (3.92)	20.4 (4.34)	10.4 (4.97)	10.4 (6.12)	17.9 (6.34)	‡
Just some	11.0 (2.92)	13.1 (3.22)	11.0 (3.96)	12.3 (3.50)	16.5 (4.86)	18.5 (5.47)	16.6 (4.56)	10.0 (3.23)	20.8 (6.60)	7.2 (5.19)	8.8 (4.69)	‡
Not too much	47.7 (4.66)	41.9 (4.72)	45.1 (6.29)	50.9 (5.32)	60.5 (6.40)	44.2 (7.00)	47.7 (6.12)	44.3 (5.35)	55.1 (8.09)	53.8 (10.00)	49.6 (8.27)	‡
Employed youth rely on boss or supervisor:												
A lot	17.2 (5.72)	24.3 (6.30)	25.7 (11.62)	23.3 (7.60)	10.5 (7.78)	29.2 (13.86)	17.3 (12.56)	28.3 (7.18)	‡	28.8 (17.28)	‡	‡
A fair amount	27.6 (6.78)	27.9 (6.59)	13.3 (9.03)	23.8 (7.66)	10.6 (7.81)	17.8 (11.66)	4.8 (7.10)	25.9 (6.99)	‡	18.7 (14.88)	‡	‡
Just some	15.4 (5.47)	15.8 (5.36)	12.2 (8.71)	15.8 (6.56)	28.8 (11.49)	20.3 (12.26)	15.7 (12.08)	11.8 (5.15)	‡	25.8 (16.70)	‡	‡
Not too much	39.9 (7.43)	32.0 (6.85)	48.9 (13.30)	37.1 (8.69)	50.1 (12.69)	32.6 (14.29)	62.3 (16.09)	33.9 (7.55)	‡	26.7 (16.88)	‡	‡

See notes at end of table.

Table 16. Reported extent of youth's reliance on persons other than family and friends, by disability category—Continued

Reliance for support	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
In-school youth rely on a guidance counselor:												
A lot	14.3 (4.29)	14.4 (4.09)	33.7 (8.18)	30.6 (6.48)	17.6 (7.79)	10.7 (4.73)	25.6 (6.94)	16.3 (5.07)	25.0 (9.18)	17.0 (8.32)	27.6 (9.49)	‡
A fair amount	23.1 (5.17)	24.8 (5.03)	14.4 (6.08)	16.0 (5.15)	17.1 (7.70)	27.6 (6.83)	14.5 (5.60)	26.1 (6.02)	26.6 (9.37)	18.0 (8.51)	29.6 (9.69)	‡
Just some	24.7 (5.29)	15.8 (4.25)	15.8 (6.31)	11.9 (4.55)	16.1 (7.52)	24.4 (6.57)	21.8 (6.57)	19.5 (5.43)	19.3 (8.37)	27.2 (9.86)	15.4 (7.66)	‡
Not too much	37.9 (5.95)	45.0 (5.79)	36.1 (8.31)	41.5 (6.93)	49.2 (10.23)	37.4 (7.40)	38.1 (7.72)	38.1 (6.66)	29.0 (9.62)	37.7 (10.74)	27.5 (9.48)	‡
Employed youth rely on coworkers:												
A lot	9.1 (4.31)	8.5 (4.08)	20.0 (11.26)	15.2 (6.52)	5.7 (5.96)	12.7 (10.50)	13.9 (11.91)	19.2 (6.31)	‡	22.8 (15.64)	‡	‡
A fair amount	19.1 (5.89)	31.5 (6.79)	14.1 (9.80)	27.8 (8.14)	18.8 (10.05)	36.0 (15.14)	6.5 (8.49)	22.4 (6.68)	‡	8.4 (10.34)	‡	‡
Just some	23.7 (6.37)	17.7 (5.58)	22.6 (11.77)	20.1 (7.28)	25.4 (11.20)	24.2 (13.51)	21.4 (14.12)	22.4 (6.68)	‡	36.1 (17.90)	‡	‡
Not too much	48.1 (7.48)	42.2 (7.22)	43.3 (13.95)	36.9 (8.77)	50.1 (12.86)	27.1 (14.02)	58.2 (16.98)	36.0 (7.69)	‡	32.8 (17.50)	‡	‡
Youth rely on other adult(s):												
A lot	35.4 (4.31)	37.4 (4.48)	40.5 (5.98)	39.6 (4.91)	39.7 (6.16)	41.4 (6.49)	28.9 (5.42)	40.3 (4.87)	35.3 (7.42)	38.7 (9.27)	37.3 (7.48)	44.6 (9.27)
A fair amount	27.9 (4.04)	25.1 (4.02)	13.5 (4.16)	19.1 (3.95)	28.5 (5.69)	20.7 (5.34)	23.7 (5.08)	22.5 (4.14)	28.3 (6.99)	32.4 (8.90)	17.9 (5.93)	26.6 (8.24)
Just some	20.2 (3.62)	20.4 (3.73)	11.5 (3.88)	17.8 (3.84)	20.1 (5.05)	25.0 (5.71)	23.8 (5.09)	21.4 (4.07)	22.1 (6.44)	15.8 (6.94)	24.8 (6.68)	19.9 (7.44)
Not too much	16.6 (3.35)	17.2 (3.50)	34.4 (5.78)	23.4 (4.25)	11.7 (4.05)	12.8 (4.40)	23.7 (5.08)	15.8 (3.62)	14.2 (5.42)	13.1 (6.42)	20.0 (6.18)	9.0 (5.34)

‡ Responses for items with fewer than 30 respondents are not reported.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003; youth in-person youth interviews, 2002 and 2004.

disabilities and those with hearing impairments, is statistically significant ($p < .01$ and $p < .001$, respectively). There are no statistically significant differences across disability categories in youth relying "a lot" on their guidance counselor, their boss or supervisor, their coworkers, or other adults for support.

Demographic Differences in Views of Personal Relationships

Not many statistically significant differences emerge regarding the views examined in this chapter for youth with disabilities who differ in age, gender, household income, or race/ethnicity. For example, there are no differences between any subgroups in their views of how much friends, parents, or other adults care about them or how much their families pay attention to them. However, there are some exceptions:

- Nineteen-year-olds are less likely than younger workers to rely on a boss or supervisor for support; two-thirds say they rely on a boss or supervisor “not too much,” compared with 16 percent of 15- and 16-year-olds and 25 percent of 17-year-olds ($p < .001$ and $p < .01$, respectively).
- Girls are more likely than boys to turn “a lot” to friends (49 percent vs. 34 percent, $p < .01$).
- White youth with disabilities are more likely than African American youth to say they rely for support “a lot” on friends (46 percent vs. 22 percent, $p < .001$).

Summary

This chapter has reported on a variety of perceptions reported by youth with disabilities regarding their personal relationships. For the most part, youth report having strong, positive relationships with their parents; 8 in 10 say they feel very cared for by their parents and 6 in 10 say they receive a lot of attention from them. Parents also are the people youth with disabilities are most likely to rely on for support.

School staff figure prominently as sources of support for some youth; one-fourth report actively turning to teachers for support, and almost one-fifth rely heavily on guidance counselors. Clerics are an important part of the support system for about one-fourth of youth. About half of youth with disabilities report they feel very cared about by friends, and three-fourths say they can find a friend when they need one and can make friends easily. Friends are an important source of support for 4 in 10 youth with disabilities.

Despite these overall positive findings, a small minority of youth with disabilities report quite negative views of their personal relationships. For example, 3 percent report they feel their parents care about them “very little or not at all,” and more than twice that percentage say they are paid attention to by their families that little.

There are few statistically significant differences in the views regarding relationships with parents, other adults, and friends, expressed by youth with disabilities and youth in the general population. Among the few differences that are evident, youth with disabilities are more likely than youth in the general population to report receiving a lot of attention from their parents, and they are less likely to report that they rely on friends for support to a great degree. Further, youth with disabilities are more likely than those in the general population to have strongly negative views of their personal relationships; although fewer than 1 in 12 report these feelings, youth with disabilities are more likely to report that they felt both lonely and disliked most or all of the time in the preceding week.

The majority of youth in all disability categories report positive views of their personal relationships, although differences, particularly in the strength of feelings, are apparent between groups. For example, youth with mental retardation are more likely than those in several other categories to report being cared about by parents and other adults “very little” or “not at all.” Similarly, youth with autism are less likely than youth in virtually all other categories to say they can find a friend when they need one or to be confident they can make friends easily.

A few differences in youth with disabilities’ perceptions of their personal relationships are apparent for youth whose demographic characteristics differ. For example, there are gender and racial/ethnic differences in sources of support indicating that both females and White youth with disabilities rely on friends more actively than do males and African American youth.

6. Youth's Expectations for the Future

At 15 to 19 years old, NLTS2 youth are on the threshold of adulthood. As they look toward their future adult roles, what are their academic, occupational, and independence expectations? Multiple factors have been found to be associated with aspirations and expectations, including individual abilities and social context (Hudley et al. 2003; Sirin et al. 2004). For example, teachers' supportive behaviors—emotional warmth and academic validation—have been found to be related to students' educational aspirations (Yun and Kurlaender 2004), and occupational aspirations have been found to be more closely associated with youth's perceived efficacy than with their actual academic achievement (Bandura et al. 2001).

Youth's future aspirations are positively related both to their high school outcomes and their adult achievements (Nurmi 1991; Wyman et al. 1993). Having more positive expectations for the future is associated with being academically successful and engaged in high school (Hudley et al. 2002; Murdock, Anderman, and Hodge 2000). Higher expectations of academic and career success is related to higher high school completion rates (Franse and Siegel 1987), thereby avoiding the negative impact on employment and postsecondary education attainment associated with dropping out (Wagner et al. 2005). In addition, higher educational aspirations are associated with higher postsecondary school attendance rates (Durham, Danner, and Seyfrit 1999).

NLTS2 asked youth with disabilities to envision their futures and articulate their expectations for the period following high school. This chapter presents findings regarding expectations related to educational and independence achievements for youth with disabilities as a whole and for those who differ in their primary disability category.[1] No differences in expectations between youth with different demographic characteristics reach the $p < .01$ level of statistical significance; thus, they are not reported here.

Educational Attainment Expectations

Youth with disabilities were asked how likely they thought it was that they would reach several education milestones, using a 4-point scale: "definitely will" (4 points), "probably will," "probably won't" or "definitely won't" (1 point; figure 19). Almost 85 percent expect they "definitely will"[2] graduate from high school with a regular diploma; an additional 12 percent think they "probably will" do so. Fewer than 1 in 20 youth (4 percent) do not expect to graduate from high school with a regular diploma.

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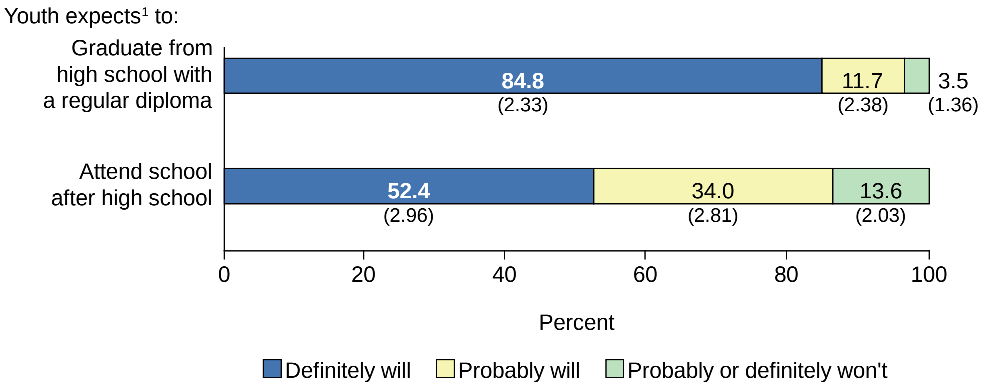
[1] Readers are reminded that findings are national estimates for a subsample of youth with disabilities who could report their own perceptions and expectations, not a sample of all youth with disabilities in the NLTS2 age range. See chapter 1 for further details on the group that is the focus of this report.

[2] When youth were interviewed, those who already had achieved an outcome were not asked the expectation item related to that outcome. For example, those who already had completed secondary school are not asked whether they expected to graduate from high school. Throughout this chapter, youth who already have attained an outcome are included as "definitely will" attain that outcome. If those who had attained an outcome were excluded from the analyses, findings would not be representative of the range of youth included in the NLTS2 report sample.

Figure 19. Youth with disabilities' reported expectations for their future educational attainment



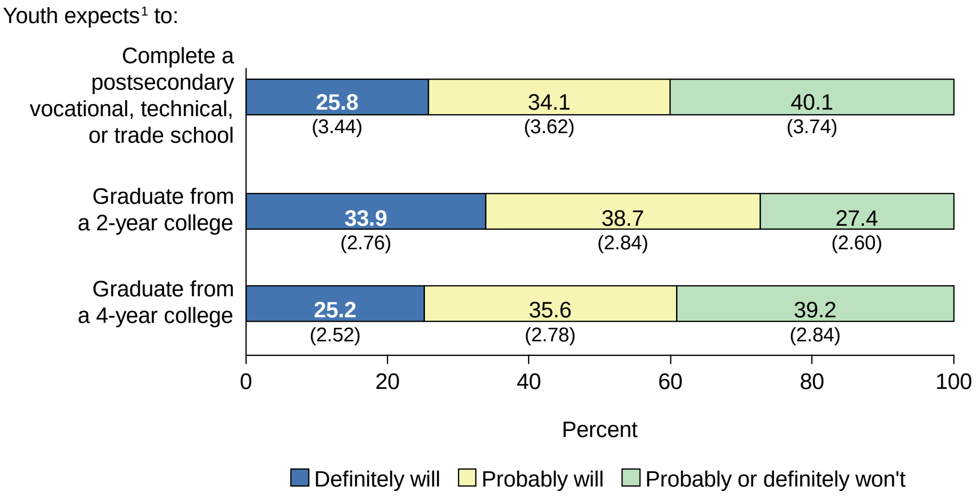
[1] Youth who have attained the outcome are included as "definitely will."

NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Youth with disabilities report being less confident that they will attend postsecondary school. One-half (52 percent) say they expect they "definitely will" continue on to postsecondary school, and approximately one-third (34 percent) expect they "probably will." However, more than 1 in 10 (14 percent) consider postsecondary education unlikely.

Figure 20. Youth with disabilities' reported expectations for their future postsecondary school completion



[1] Youth who have attained the outcome are included as "definitely will."

NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Youth with disabilities also were questioned about whether they expected to complete three types of postsecondary programs: vocational, technical, or trade school; 2-year college; and 4-year college. Approximately one-quarter expect they "definitely will" complete a vocational, technical, or trade school program (26 percent) or 4-year college (25 percent), and about one-third (34 percent) say they "definitely will" graduate from a 2-year college (figure 20). An additional 34 percent to 39 percent report they "probably will" complete each of the three types of postsecondary education.

Expectations related to high school graduation are comparable for youth with disabilities and their peers in the general population. Most youth in both groups (97 percent of youth with disabilities and 99 percent of those in the general population)[3] say they expect to finish high school with a regular diploma. Youth with disabilities are less positive than their general-population peers about postsecondary education attendance or completion.[4] Eighty-six percent of youth with disabilities expect they "definitely" or "probably" will continue their education after high school, compared with 95 percent of those in the general population who expect to go on to postsecondary school ($p < .001$). The gap in expectations is wider related to postsecondary school completion. Almost four of five youth in the general population report expecting they will graduate from a 4-year college (79 percent), compared with approximately three of five youth with disabilities who "definitely" or "probably" expect to complete this type of education (61 percent, $p < .001$).

Independence Expectations

In addition to their expectations regarding educational attainment, youth with disabilities were asked how likely they think it is that they will achieve several milestones of independence: getting a driver's license, finding paid employment, being financially self-sufficient, and living independently.

More than four of five youth with disabilities (81 percent) "definitely" expect to get a driver's license (figure 21). Another 14 percent think they "probably" will be able to earn driving privileges. The large majority of youth with disabilities (95 percent) expect they "definitely" will get a paid job. However, youth are less certain that these jobs will pay enough for them to be financially self-sufficient; about two-thirds (65 percent) expect they "definitely will" be able to support themselves financially, without family or government support ($p < .001$ for comparison with definitely expect to get a paid job). Approximately 3 of 10 (29 percent) report they "probably will" be able to be financially self-sufficient.

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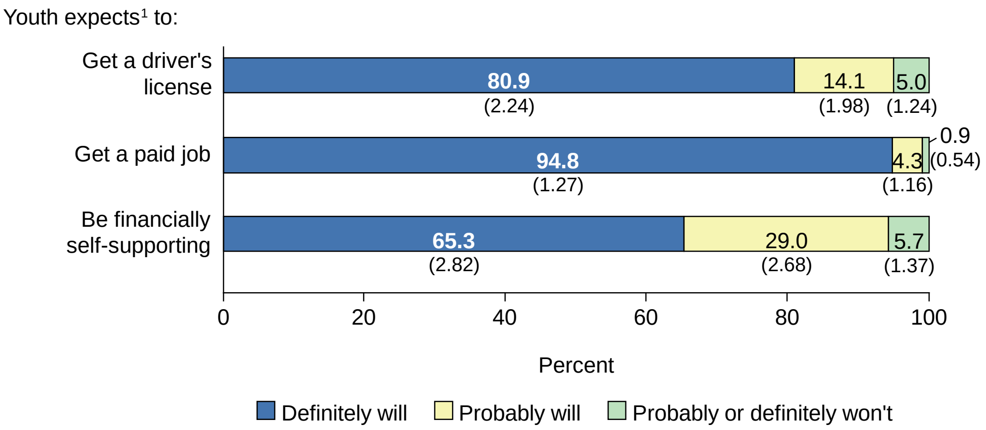
[3] General education statistics related to graduation from high school are from the U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES) 1993 youth survey, responses for youth ages 15 through 19. The NHES item somewhat differs from the NLTS2 item. The NHES item asks youth, "Do you think you will graduate from high school?" with "yes/no" responses. The NLTS2 item asks, "How likely do you think it is that you will graduate from high school and get a regular high school diploma?" with response categories of "definitely will," "probably will," "probably won't," or "definitely won't." For comparison with general population, NLTS2 responses of "definitely will" and "probably will" are combined for comparison with NHES "yes" responses.

[4] General education statistics related to postsecondary education are from the U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES) 1999 youth survey, responses for youth ages 15 through 19. NHES and NLTS2 postsecondary education expectations items have similar wordings, but the response categories differ. NHES items have "yes/no" response categories, and NLTS2 items have response categories of "definitely will," "probably will," "probably won't," or "definitely won't." For comparison with general population, NLTS2 responses of "definitely will" and "probably will" are combined for comparison with NHES "yes" responses.

Figure 21. Youth with disabilities’ reported expectations for their future driving, employment, and financial independence



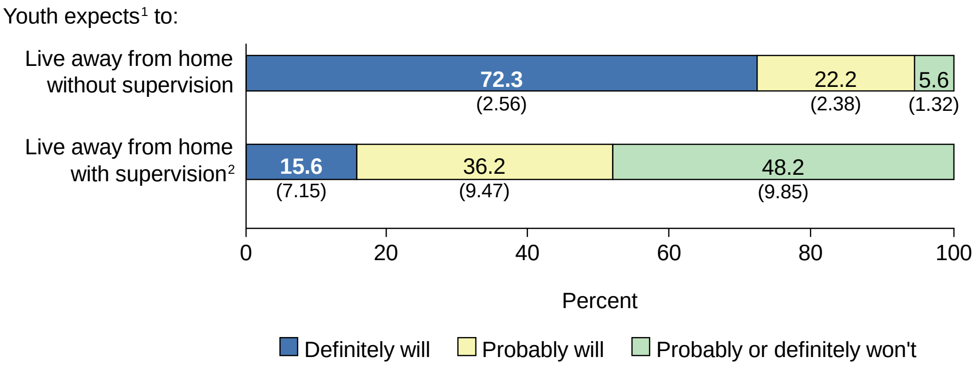
[1] Youth who have attained the outcome are included as “definitely will.”

NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Expectations for residential independence do not differ significantly from expectations related to financial independence (figure 22). Almost three-quarters (72 percent) of youth with disabilities think they “definitely” will be living independently in the future. An additional 22 percent say they “probably” will be living independently, while 6 percent report they “probably” or “definitely” will not. Among youth who think they will not be able to live independently without supervision, even having supervision is not expected to result in

Figure 22. Youth with disabilities’ reported expectations for their future residential independence



[1] Youth who have attained the outcome are included as “definitely will.”

[2] Asked only of youth who do not think they will live away from home without supervision.

NOTE: Standard errors are in parentheses.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

independence for many; nearly half (48 percent) do not expect to live away from home with supervision, while 16 percent of those youth expect they “definitely” will be able to live away from home with supervision.

Relationships Among Expectations

Expectations are related in that youth who hold higher expectations in one domain tend to hold higher expectations in other domains, when values on the response scales for each expectation were correlated (table 17).[5] For example, those who expect to be able to support themselves financially also tend to expect to live on their own in the future ($r = .49$, $p < .001$). Correlations are significant for all education- and independence-related outcomes. Correlation coefficients range from $r = .06$ ($p < .01$) for the relationship between expecting to get a driver’s license and to graduate from high school with a regular diploma, to $r = .59$ ($p < .001$) for the relationship between expecting to attend a postsecondary school and to graduate from a 4-year college, as well as between expecting to complete a postsecondary vocational or technical program and to complete a 2-year college.

Table 17. Correlations among youth with disabilities’ reported expectations for their future educational and independence attainment

Expectation	Graduate from high school	Go to postsecondary school	Complete voc tech school	Complete 2-year college	Complete 4-year college	Get a driver’s license	Get a paid job	Be financially self-supporting	Live independently without supervision
Graduate from high school with a regular diploma	1.00	.31***	.10***	.14***	.23***	.06**	.13***	.19***	.19***
Attend school after high school		1.00	.56***	.48***	.59***	.08***	.10***	.21***	.20***
Complete a postsecondary vocational, technical, or trade school			1.00	.59***	.36***	.11***	.06**	.16***	.14***
Graduate from a 2-year college				1.00	.41***	.13***	.09***	.17***	.16***
Graduate from a 4-year college					1.00	.10***	.13***	.27***	.23***
Get a driver’s license						1.00	.18***	.26***	.32***
Get a paid job							1.00	.33***	.25***
Be financially self-supporting								1.00	.49***
Live independently without supervision									1.00

$^{**}p < .01$, $^{***}p < .001$.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

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[5] Expectations related to the likelihood that youth will live away from home with supervision are not included in these analyses because only a subset of respondents were asked this item.

Comparison With Parent Expectations

Two years before youth with disabilities were asked about their expectations, their parents were asked to report on the perceived likelihood that their adolescent children with disabilities would reach these education and independence milestones. A comparison of parents'[6] and youth's expectations on the same set of expectations using the same 4-point scale indicates that, overall, parents tend to hold lower expectations for their adolescent children's future achievements than youth hold for themselves (figure 23). Across the various milestones, youth are 7 to 26 percentage points more likely than parents to expect they "definitely" will attain education and independence outcomes. Differences between parents' and youth's expectations "definitely" to attain these milestones are statistically significant for all education and independence outcomes,[7] with the exception of expectations related to living independently without supervision. For example, more than half of youth with disabilities expect they "definitely" will continue their education after high school, whereas fewer than one-third of their parents expect them to do so (52 percent vs. 29 percent; $p < .001$), and approximately two-thirds (65 percent) "definitely" expect to be financially self-supporting, compared with fewer than half (47 percent) of their parents predicting their children will achieve financial self-sufficiency ($p < .001$).

Despite these differences, parents' and youth's expectations are related to each other in that youth who hold higher expectations tend to have parents who hold higher expectations for them. Correlations between youth's and parents' expectations are significant for all education and independence-related outcomes,[8] with correlation coefficients ranging from $r = .21$ ($p < .001$) for expectations related to completing a postsecondary vocational or technical program to $r = .74$ ($p < .001$) for expectations related to getting a driver's license.

Disability Category Differences in Expectations

There are differences in youth's expectations regarding future educational attainment and independence apparent for youth in different disability categories.

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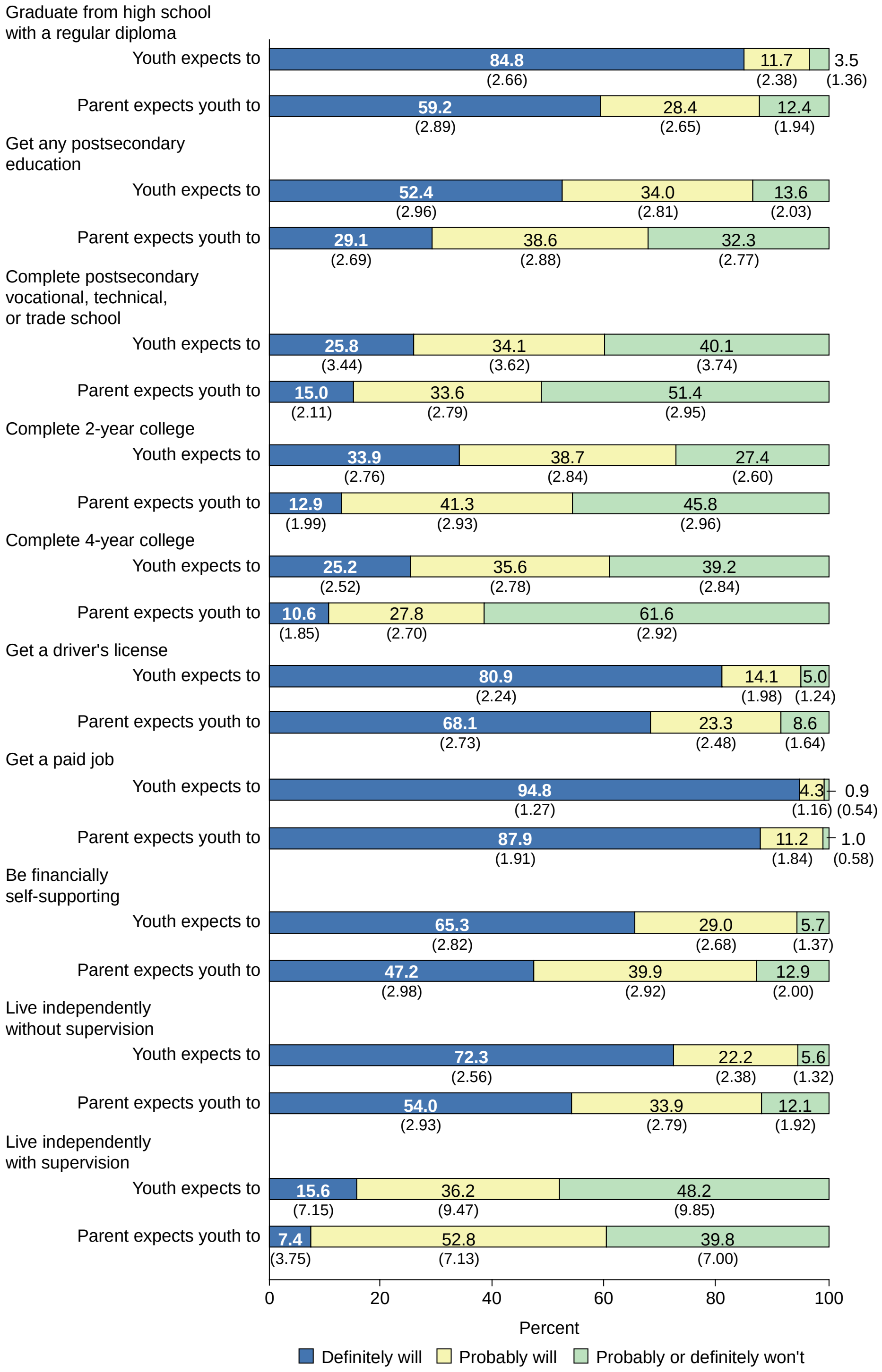
[6] NLTS2 Wave 1 2001 parent expectations reported in this chapter include only parent responses for the subset of youth with disabilities included in this report. Note that the 2-year difference between recording parents' and youth's expectations may result in differences in expectations, apart from the differences between parents and youth themselves.

[7] All relationships are significant at the $p < .01$ or $p < .001$ level.

[8] Expectations related to the likelihood that youth will live away from home with supervision are not included in these analyses because only a subset of respondents were asked this item.

Figure 23. Expectations for youth's future educational and independence attainment reported by youth with disabilities and their parents



NOTE: Youth who have attained the outcome are included as "definitely will." Standard errors are in parentheses.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 parent telephone interview/mail survey, 2001, restricted to responses for the subset of youth included in this report; Wave 2 youth telephone interview/mail survey, 2003.

Educational Attainment

Youth do not differ significantly by disability category in their expectations to graduate from high school. Expectations “definitely” to graduate from high school range from 70 percent for youth with multiple disabilities to 93 percent for those with traumatic brain injuries (table 18). In contrast, disability category differences are apparent for expectations related to postsecondary school. Expectations to “definitely” attend postsecondary school range from 8 in 10 of those with hearing impairments to fewer than 4 in 10 of those with mental retardation. Youth with hearing impairments are more likely to expect they “definitely will” attend postsecondary school (80 percent) than are those with multiple disabilities (47 percent, *p* < .01), autism (47 percent, *p* < .01), or mental retardation (38 percent, *p* < .001). Youth with mental retardation also are less likely to expect to “definitely” continue their education after high school than are youth with visual impairments (70 percent, *p* < .001), traumatic brain injuries (67 percent, *p* < .01), orthopedic impairments (62 percent, *p* < .01), speech impairments (59 percent, *p* < .01), or emotional disturbances (56 percent, *p* < .01).

Table 18. Youth with disabilities’ reported expectations for their future educational attainment, by disability category

Expectations[1]	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage expected to:												
Graduate from high school with a regular diploma												
Definitely will	87.9 (3.50)	77.0 (4.92)	73.7 (7.10)	83.7 (4.47)	85.9 (7.69)	90.9 (4.67)	81.5 (5.75)	79.9 (4.78)	77.0 (8.23)	93.1 (5.84)	70.4 (9.64)	‡
Probably will	9.0 (3.07)	21.1 (4.77)	22.5 (6.73)	10.3 (3.68)	10.7 (6.83)	8.0 (4.41)	17.1 (5.58)	15.1 (4.27)	21.4 (8.02)	6.8 (5.80)	24.1 (9.03)	‡
Definitely or probably won’t	3.0 (1.83)	2.0 (1.64)	3.7 (3.04)	6.0 (2.87)	3.4 (4.00)	1.1 (1.69)	1.4 (1.74)	5.1 (2.62)	1.6 (2.45)	0.1 (0.73)	5.5 (4.82)	‡
Get any postsecondary education												
Definitely will	53.3 (4.34)	58.8 (4.60)	37.7 (6.25)	56.2 (4.71)	79.9 (6.36)	69.9 (5.86)	62.2 (5.86)	49.6 (4.87)	47.2 (8.44)	66.9 (9.06)	47.1 (8.42)	55.4 (11.17)
Probably will	34.0 (4.30)	30.6 (6.35)	41.6 (4.35)	30.1 (5.72)	15.4 (5.46)	24.1 (5.16)	24.0 (4.67)	35.8 (8.17)	37.2 (8.26)	24.3 (8.18)	37.8 (4.30)	‡
Definitely or probably won’t	12.7 (2.90)	10.6 (2.88)	20.7 (5.22)	13.7 (3.26)	4.7 (3.36)	6.0 (3.03)	13.7 (4.15)	14.6 (3.44)	15.6 (6.13)	8.8 (5.45)	15.1 (6.04)	19.1 (8.83)
Complete postsecondary vocational, technical, or trade school												
Definitely will	26.9 (4.97)	22.4 (5.03)	22.1 (6.68)	29.3 (5.65)	22.5 (9.27)	17.4 (6.71)	20.2 (6.32)	20.0 (5.01)	13.3 (6.88)	35.0 (11.43)	17.8 (8.06)	‡
Probably will	34.5 (5.33)	42.1 (5.96)	24.6 (6.93)	35.5 (5.94)	40.4 (10.90)	45.3 (8.81)	34.5 (7.49)	33.2 (5.89)	40.2 (9.93)	31.0 (11.08)	40.5 (10.35)	‡
Definitely or probably won’t	38.6 (5.46)	35.5 (5.77)	53.3 (8.03)	35.2 (5.93)	37.1 (10.73)	37.3 (8.56)	45.3 (7.84)	46.8 (6.25)	46.5 (10.11)	34.0 (11.35)	41.7 (10.39)	‡

See notes at end of table.

Table 18. Youth with disabilities' reported expectations for their future educational attainment, by disability category—Continued

Expectations[1]	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage expected to:												
Complete 2-year college												
Definitely will	36.6	31.9	22.5	32.3	42.4	34.6	32.5	29.9	24.5	52.6	25.5	34.1
	(4.16)	(4.18)	(5.18)	(4.42)	(6.31)	(6.05)	(5.56)	(4.38)	(6.69)	(9.55)	(6.69)	(8.94)
Probably will	39.0	37.0	39.0	39.7	28.0	34.3	39.0	37.5	37.2	31.0	35.2	‡
	(4.21)	(4.33)	(6.06)	(4.62)	(5.73)	(6.04)	(5.79)	(4.63)	(7.52)	(8.85)	(7.33)	
Definitely or probably won't	24.4	31.1	38.5	28.0	29.6	31.1	28.5	32.6	38.3	16.4	39.4	34.0
	(3.71)	(4.15)	(6.04)	(4.24)	(5.83)	(5.89)	(5.35)	(4.48)	(7.56)	(7.08)	(7.50)	(8.93)
Complete 4-year college												
Definitely will	25.2	35.2	16.1	26.8	47.2	39.0	38.7	22.6	20.6	42.9	24.8	41.8
	(3.75)	(4.30)	(4.53)	(4.18)	(6.33)	(6.23)	(5.60)	(3.98)	(6.16)	(9.36)	(6.67)	(9.41)
Probably will	38.0	34.7	35.9	28.0	32.3	42.2	27.8	30.3	33.6	31.9	21.1	‡
	(4.19)	(4.29)	(5.91)	(4.24)	(5.93)	(6.31)	(5.15)	(4.37)	(7.19)	(8.82)	(6.30)	
Definitely or probably won't	36.8	30.1	48.0	45.3	20.5	18.8	33.6	47.1	45.8	25.2	54.1	30.1
	(4.16)	(4.13)	(6.16)	(4.70)	(5.12)	(4.99)	(5.43)	(4.75)	(7.59)	(8.21)	(7.70)	(8.75)

‡ Responses for items with fewer than 30 respondents are not reported.

[1] Youth who have attained the outcome are included as "definitely will."

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Expectations for completing postsecondary vocational, technical, or trade school programs do not differ significantly by disability category. Youth in most disability categories do not differ significantly in their expectations related to graduating from a 2-year college; the one exception is that those with mental retardation are less likely to expect they "definitely will" graduate from a 2-year college (23 percent) than are those with traumatic brain injuries (53 percent, $p < .01$). Expectations for "definitely" graduating from a 4-year institution vary more widely across disability categories. Youth with hearing impairments are more likely to expect to "definitely" complete a 4-year college program (47 percent) than are those with mental retardation (16 percent, $p < .001$), autism (21 percent, $p < .01$), other health impairments (23 percent, $p < .001$), learning disabilities (25 percent, $p < .01$), or emotional disturbances (27 percent, $p < .01$). Youth with mental retardation also are less likely to expect to graduate from a 4-year university than are those with traumatic brain injuries (43 percent, $p < .01$), visual impairments (39 percent, $p < .01$), orthopedic impairments (39 percent, $p < .01$), or speech or language impairments (35 percent, $p < .01$).

Independence

Future independence expectations also differ across disability categories. Expectations for "definitely" earning a driver's license range from 12 percent to 92 percent (table 19). Few youth with visual impairment (12 percent) or deaf-blindness (25 percent) expect they "definitely" will get a driver's license. Youth in both disability categories are less likely to expect they "definitely" will have a driver's license than are those in all other categories (other than multiple disabilities for comparison with expectations of youth with deaf-blindness).[9] Approximately half of those in four categories—youth with mental retardation (58 percent), orthopedic impairments (57 percent), autism (54 percent), and multiple disabilities (53 percent)—expect to "definitely" get a driver's license. Youth in these four disability categories are significantly less likely definitely to expect to drive than are those in six of the other disability categories who have expectations ranging from 81 percent to 92 percent—youth with learning disabilities (86 percent, $p < .001$ for all comparisons), speech impairments (87 percent, $p < .001$ for all comparisons), emotional disturbances (82 percent; $p < .001$ for comparison with mental retardation, autism, and multiple disabilities; $p < .01$ for comparison with orthopedic impairments), hearing impairments (92 percent, $p < .001$ for all comparisons), other health impairments (81 percent; $p < .01$ for all comparisons other than for comparison with autism, which is not a significant difference), or traumatic brain injuries (87 percent, $p < .001$ for all comparisons).

More than 80 percent of those in all disability categories other than autism expect "definitely" to have paid employment. Responses range from 78 percent of those with autism to 97 percent of youth with learning disabilities. Youth with autism are less likely to expect "definitely" to be employed than are those with learning disabilities or speech, hearing, or orthopedic impairments ($p < .01$ for all comparisons).

Approximately two-thirds (61 percent to 71 percent) of youth in 6 of the 12 disability categories expect to be financially self-supporting, including those with learning disabilities; emotional disturbances; speech/language, visual, or other health impairments; or traumatic brain injuries. Youth in all of these disability categories are significantly more likely to expect to support themselves than are those with mental retardation (37 percent), autism (34 percent), or multiple disabilities (29 percent).[10] Youth in these six disability categories also are more likely to expect to live independently in the future (69 percent to 77 percent expect to do so) than are those with mental retardation (49 percent), autism (46 percent), or multiple disabilities (41 percent).[11] Youth with orthopedic impairments are less likely "definitely" to expect to

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[9] Comparisons of youth with visual impairments' expectations to "definitely" get a driver's license with those of youth with learning disabilities (86 percent, $p < .001$), speech/language impairments (87 percent, $p < .001$), mental retardation (58 percent, $p < .001$), emotional disturbances (82 percent, $p < .001$), hearing impairments (92 percent, $p < .001$), orthopedic impairments (57 percent, $p < .001$), other health impairments (81 percent, $p < .001$), autism (54 percent, $p < .001$), traumatic brain injuries (87 percent, $p < .001$), multiple disabilities (53 percent, $p < .001$). Comparisons of expectations to "definitely" get a driver's license of youth with deaf-blindness with those of youth with learning disabilities ($p < .001$), speech/language impairments ($p < .001$), mental retardation ($p < .001$), emotional disturbances ($p < .001$), hearing impairments ($p < .001$), orthopedic impairments ($p < .01$), other health impairments ($p < .001$), autism ($p < .01$), traumatic brain injuries ($p < .001$).

[10] Youth with mental retardation, autism, or multiple disabilities are less likely to expect "definitely" to be financially self-supporting compared with youth with learning disabilities, emotional disturbances, or visual impairments ($p < .001$ for each of the three comparisons); other health impairments ($p < .001$ for each of these groups, compared with those with mental retardation, autism, or multiple disabilities), and youth with speech/language impairments ($p < .01$, $p < .01$, and $p < .001$). Additionally, youth with multiple disabilities are more likely than youth with traumatic brain injuries to have this expectation ($p < .01$).

[11] Youth with mental retardation, autism, or multiple disabilities are less likely to expect "definitely" to live independently without supervision, compared with youth with learning disabilities, other health impairments, emotional disturbances ($p < .001$ for each of these groups, compared with youth with mental retardation, autism, or multiple disabilities), traumatic brain injuries, or speech/language impairments ($p < .01$ for these latter two

support themselves (47 percent) or to live independently (57 percent) than are those with learning disabilities ($p < .001$ for self-supporting comparison, $p < .01$ for living independently comparison), emotional disturbances ($p < .01$ for both comparisons), or other health impairments ($p < .01$ for both comparisons). Youth with deaf-blindness are less likely than those with learning disabilities to expect to be financially self-supporting ($p < .01$).

Table 19. Youth with disabilities' reported expectations for their future independence, by disability category

Expectations[1]	Learning disability	Speech/ language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error											
Percentage expected to:												
Get a driver's license												
Definitely will	86.3 (2.93)	87.2 (2.98)	57.9 (5.89)	81.8 (3.59)	91.5 (3.44)	12.4 (4.15)	57.0 (5.75)	80.7 (3.70)	54.0 (7.44)	86.6 (6.19)	53.1 (7.64)	25.2 (7.84)
Probably will	11.7 (2.74)	11.6 (2.86)	28.2 (5.37)	14.2 (3.25)	7.3 (3.21)	#	24.2 (4.97)	12.7 (3.12)	24.5 (6.42)	8.2 (4.98)	19.4 (6.05)	6.3 (4.39)
Definitely or probably won't	2.0 (1.19)	1.2 (0.97)	13.9 (4.13)	4.0 (1.82)	1.2 (1.34)	87.6 (4.15)	18.8 (4.54)	6.6 (2.33)	21.5 (6.13)	5.2 (4.03)	27.4 (6.83)	68.6 (8.38)
Get a paid job												
Definitely will	97.1 (1.43)	95.7 (1.82)	86.3 (4.14)	92.9 (2.39)	96.1 (2.38)	92.6 (3.35)	83.8 (4.31)	95.8 (1.90)	77.7 (6.25)	92.5 (4.78)	86.1 (5.23)	82.2 (7.13)
Probably will	2.6 (1.36)	4.3 (1.82)	9.7 (3.56)	5.8 (2.18)	3.1 (2.13)	7.2 (3.31)	11.3 (3.70)	4.2 (1.90)	9.8 (5.98)	6.7 (4.53)	11.2 (4.76)	17.8 (7.13)
Definitely or probably won't	0.2 (.38)	#	4.0 (2.36)	1.3 (1.06)	0.8 (1.09)	0.2 (.57)	4.9 (2.52)	#	2.6 (2.39)	0.8 (1.62)	2.7 (2.45)	#
Be financially self-supporting												
Definitely will	71.3 (3.93)	60.6 (4.48)	37.1 (6.21)	66.2 (4.47)	57.8 (6.46)	68.6 (6.09)	46.8 (6.00)	67.4 (4.59)	34.3 (7.64)	62.2 (9.12)	29.2 (7.61)	40.4 (9.47)
Probably will	25.0 (3.77)	35.8 (4.39)	48.1 (6.42)	28.3 (4.26)	35.5 (6.26)	28.7 (5.93)	36.2 (5.77)	26.9 (4.35)	43.1 (7.97)	35.9 (9.03)	46.0 (8.34)	45.4 (9.61)
Definitely or probably won't	3.7 (1.64)	3.6 (1.71)	14.8 (4.57)	5.5 (2.16)	6.8 (3.29)	2.7 (2.13)	16.9 (4.50)	5.7 (2.27)	22.5 (6.72)	1.9 (2.57)	24.8 (7.23)	14.1 (6.72)
Live independently without supervision												
Definitely will	76.7 (3.61)	69.2 (4.14)	48.8 (5.91)	78.0 (3.89)	66.9 (5.99)	68.7 (5.91)	57.4 (5.78)	76.0 (4.04)	45.8 (7.57)	75.8 (7.93)	40.8 (7.63)	57.8 (9.21)
Probably will	20.1 (3.43)	24.9 (3.88)	36.7 (5.70)	17.2 (3.55)	22.6 (5.32)	26.9 (5.65)	23.1 (4.93)	18.7 (3.69)	31.9 (7.08)	21.6 (7.62)	35.3 (7.41)	26.8 (8.26)
Definitely or probably won't	3.2 (1.50)	5.9 (2.11)	14.5 (4.16)	4.7 (1.99)	10.6 (3.92)	4.4 (2.61)	19.5 (4.63)	5.4 (2.14)	22.3 (6.33)	2.6 (2.94)	23.9 (6.62)	15.4 (6.73)

[1] Youth who have attained the outcome are included as "definitely will."

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

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groups, compared with youth with mental retardation, autism, or multiple disabilities). Additionally, youth with visual impairments are more likely than youth with multiple disabilities to have this expectation ($p < .01$).

Summary

This chapter describes youth's expectations for attaining certain educational and independence outcomes. Most youth expect they will graduate from high school, with a regular diploma. Approximately half expect they will attend school after high school and one-quarter to one-third expect they will graduate from one of three types of postsecondary schools. Youth with disabilities are less positive than their peers in the general population about postsecondary education attendance and completion.

The majority of youth with disabilities expect they will get a paid job, but they are less certain that these jobs will pay enough for them to be financially self-sufficient. Most youth think they "definitely" or "probably" will live independently in the future. Among youth who think they will not be able to live independently without supervision, half do not expect to live away from home with supervision.

Expectations are related in that youth who hold higher expectations in one domain tend to hold higher expectations in other domains. Further, youth tend to hold higher expectations for themselves than their parents held for them 2 years earlier. Despite these differences, parents' and youth's expectations are related to each other in that youth who hold higher expectations tend to have parents who hold higher expectations for them.

There are differences in expectations regarding the future educational attainment and independence of youth in different disability categories. Youth with hearing or visual impairments or traumatic brain injuries tend to hold higher expectations related to postsecondary education than do those with mental retardation or multiple disabilities. Youth with learning disabilities; emotional disturbances; speech/language, visual, or other health impairments; or traumatic brain injuries are more likely to expect to be financially self-supporting and to live independently without supervision than are those with mental retardation, autism, or multiple disabilities. No differences in expectations are significantly related to gender, age, household income, and race/ethnicity.

The longitudinal design of NLTS2 permits the monitoring of progress of youth with disabilities in their future pursuits, as well as an assessment of the extent to which the expectations examined here are realized in the years following high school.

7. A National Picture of the Self-Reported Perceptions and Expectations of Youth With Disabilities

This report has drawn on nationally representative data from the National Longitudinal Transition Study-2 (NLTS2) to fill a gap in information about how youth with disabilities in the 15- through 19-year-old age group who can report their own views describe

- the kind of people they are—their feelings about themselves and their lives, and their skills and competencies;
- their secondary school experiences;
- their personal relationships; and
- their expectations for the future.

Major findings from these analyses are summarized below.

A Generally Positive Outlook

On every measure of youth's perceptions and expectations, there are some youth who express the most positive and some the most negative views. However, positive views predominate when youth describe themselves, their school experiences, and their relationships. For example, more than half of youth with disabilities who could express their own views report having a variety of strengths, ranging from mechanical, athletic, and artistic abilities to being well-organized and sensitive to others' feelings. Two-thirds of youth who received or still receive special education services in high school report they do not believe they have any kind of disability or special need that interferes with their activities. About 60 percent or more report thinking of themselves as nice, proud, able to cope, useful, and important. Similarly, the majority say they are rarely if ever depressed in a given week, and report enjoying life and feeling it is full of interesting things to do most or all of the time. About half give themselves high scores on a measure of personal autonomy,[1] and a similar proportion feel confident in their ability to express their feelings to their peers. More than 6 in 10 have high scores on self-realization abilities and report being able to get adults to listen to them and to get information they need. More than 8 in 10 score high on psychological empowerment. Perhaps a note of caution is in order, however, when considering this generally positive view that youth have of themselves and their abilities, in light of some research that has shown a "positive illusory bias" in such assessment on the part of youth with disabilities (Evangelista et al. 2004; Gresham et al. 2000; Heath and Glen 2005; Hoza et al. 2002; Klassen 2006).

When it comes to views of school, generally positive perceptions also are reported. About two-thirds of youth with disabilities report liking school and feeling part of school at least "pretty much." The majority of youth with disabilities report that school is not particularly hard and that they only occasionally have problems with academic and interpersonal challenges. Most feel at least "pretty safe" at school, and almost half agree "a lot" that they get the services and supports at school that they need to succeed.

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[1] Please see chapter 3 for definitions of these self-determination concepts.

Personal relationships, particularly those with parents or guardians, also are reported in a positive light by the majority of youth with disabilities. More than 8 in 10 youth with disabilities report having parents who care about them “very much,” and of all relationships, youth are most likely to turn to parents for support when they have problems or decisions to make. Other adults, including school staff, also play an important support role for youth with disabilities. Peer relationships also are important to youth with disabilities and are viewed positively by most. About three-fourths of youth with disabilities are confident in their ability to make friends and report they can “find a friend” when they need one. Most report rarely or never feeling lonely or disliked by others in the previous week.

The generally positive views of themselves and their lives expressed by the majority of youth with disabilities on multiple dimensions are consistent with the hopeful view of the future expressed by many. The large majority expect to graduate from high school with a regular diploma, and about half expect to continue their education after high school. Almost all expect to find paid employment, two-thirds believe they will be able to earn enough to be financially self-supporting, and three-fourths expect to live independently away from home.

The Minority View

However, despite this overall positive tone to the reports of youth with disabilities, on every measure, a minority of youth report negative and sometimes strongly negative views. For example, almost 1 in 10 youth with disabilities report they do not identify at all with feelings of being useful or important, 1 in 8 report they rarely or never feel hopeful about the future, and a similar proportion feel unable to share their ideas and feelings with peers. About 10 percent of youth with disabilities report they do not like or feel part of their school at all, and about three times as many say they never become involved at school, even when they have the chance.

Smaller proportions of youth with disabilities report poor interpersonal relationships. For example, 3 percent report they feel their parents care about them “very little” or “not at all,” and twice as many say their parents pay little or no attention to them. About 1 in 12 youth with disabilities say they feel lonely most or all of the time, and a similar proportion report a pervasive feeling of being disliked. Six percent think it is unlikely that they will be able to live independently without supervision in the future; half of those do not believe even having supervision will enable them to live away from home.

Disability Category Differences

Disability category differences are apparent on most, although not all, of the range of views examined in this report. Some of the perceptions or views youth report are consistent with the fundamental nature of their disabilities. For example, youth in the other health impairment category, to which youth with attention deficit/hyperactivity disorder as a primary disability typically are assigned, are more likely than most others to report having daily trouble paying attention in school. Those with orthopedic impairments are less likely than most others to report having strong athletic or mechanical skills. Youth with autism, which affects their ability to establish relationships with others and engage in daily activities, are less likely than those in most other categories to report a strong sense of affiliation at school or to be involved in activities there; they also are among the least likely to report they make friends easily or feel cared about by friends “a lot.” Youth with emotional and/or behavioral challenges often can have relationships with others in which conflict is common; consistent with this, youth in the emotional disturbance category are less likely than many others to report infrequent trouble getting along with others at school and that they are cared about “a lot” by adults other than family members. Finally, youth whose disabilities are more obvious, such as those with deaf-blindness or visual or orthopedic impairments, are much more likely to report having a disability than youth with learning disabilities or speech/language impairments, for example, whose disabilities often are less immediately apparent to others.

Further, generally more positive perceptions and expectations are apparent for some categories of youth with disabilities and more negative ones for others. Youth with visual impairments and those with mental retardation illustrate these differences.

Youth with visual impairments are more likely than those in several other categories to report a strong sense of being able to handle things that come their way and to report rarely or never feeling depressed. They report little trouble getting along with others at school and a strong sense of affiliation with and level of involvement there. They tend to have high self-determination skills, confidence in their ability to find a friend, and a strong sense of being cared about by their friends.

In contrast, compared with youth in several other categories, those with mental retardation are more likely to report not feeling cared about by their parents or other adults and are less likely to report there is an adult at school who knows and cares about them. They also are less likely than most categories of youth to be active participants in organized activities at school. Youth with mental retardation are more likely than many others to report feeling not very or not at all useful, not able to deal well with challenges they face, and that they rarely or never enjoy life. They are less likely to report rarely or never feeling depressed and feeling hopeful about the future most or all of the time. However, despite being more likely than other groups of youth with disabilities to express negative feelings or perceptions, it is a minority of youth with mental retardation who do so.

Despite these differences, there are some dimensions on which statistically significant disability category differences are not apparent. For example, there are no statistically significant differences across categories in the percentages of youth who report enjoying life most or all of the time and identifying strongly with a statement that their lives are full of interesting things to do.

Demographic Characteristics Rarely Differentiate the Views of Youth With Disabilities

Despite NLTS2 findings that demographic differences between youth with disabilities are associated with significant differences in their experiences in secondary school (Wagner, Marder, Blackorby, et al. 2003) and in the early years after leaving school (Wagner et al. 2005), differences in the views of youth with disabilities who are distinguished by gender, age, household income, or race/ethnicity are not common. For example, there are no statistically significant differences between demographic groups in their self-determination skills or their feelings of competence in expressing their feelings, getting adults to listen to them, or finding information they need. Similarly, statistically significant differences are not found in demographic groups’ views regarding being cared about by parents, friends, and other adults and being paid attention to by their families.

Gender differences reflect common stereotypes; adolescent females with disabilities are more likely than males to report they are sensitive to others' feelings and boys are more likely to report they have strong athletic and mechanical abilities. Female teens also are more likely than males to say they turn to friends for support a lot; a similar difference is noted between White and African American youth with disabilities. Age differences are noted only with regard to a lower participation rate in extracurricular activities at school and a lower likelihood of turning to a boss or supervisor for support among older youth with disabilities relative to younger peers. No statistically significant differences are noted between youth with disabilities from households with different levels of annual income.

Comparisons With Youth in the General Population

The picture of youth with disabilities presented in this report is similar to that of youth in the general population on several dimensions, yet significant differences between the two groups also are apparent.[2] For example, there are no statistically significant differences in reporting that they are cared about "very much" by parents or that they rely "a lot" on them and on siblings or a boy- or girlfriend for support. There also are no statistically significant differences in responses related to feelings of safety at school or in expectations of "definitely" receiving a regular high school diploma.

However, in several respects, youth with disabilities express somewhat more negative views, experiences, or expectations than their general-population peers, particularly with regard to school. For example, youth with disabilities are more likely than youth in the general population to report having daily trouble paying attention, completing their homework, and getting along with teachers and students. They also are more likely to have little or no sense of affiliation with school and to report strong disagreement that they enjoy school. Interestingly, however, youth with disabilities also are more likely to report strong agreement that they enjoy school. They are less likely than youth in general to expect "definitely" to attend or complete postsecondary school. Regarding their relationships in general, youth with disabilities are more likely than others to report feeling lonely and disliked by others "most or all of the time." Nonetheless, compared with youth in the general population, those with disabilities are more likely to say they receive "a lot" of attention from their families and to report enjoying life and feeling hopeful about the future "most or all of the time."

Cautions in Interpreting Findings

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

- The analyses presented in this report are descriptive; none of the findings should be interpreted as implying causal relationships, neither should differences between disability categories be interpreted as reflecting disability differences alone, due to the confounding of disability and other demographic factors.

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[2] Readers are reminded that, although most comparisons between youth with disabilities and the general population in this report are based on items and response categories that are identical for the two populations, differences in the wording of some items may suggest that the results of those comparisons be interpreted with caution.

- The report addresses the “self-representations” of youth with disabilities—that is, how they describe themselves to others. Their “true” views and actual competencies are unknown.
- 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 will result in some apparently significant differences, even at this level, being “false positives”—that is, Type 1 errors. Readers also are cautioned that the meaningfulness of differences reported here cannot be derived from their statistical significance.

This report provides the first national picture of the self-representations and expectations of youth with disabilities, how they differ across disability categories and demographic groups, and how they compare with those of youth in the general population. NLTS2 will continue to solicit the views of youth as they age, which will provide information to examine, for instance, how later achievements mesh with expectations and how views might evolve over time.

References

Akey, T.M. (2006). *Student Context, Student Attitudes and Behavior, and Academic Achievement: An Exploratory Analysis.* Washington, DC: Manpower Demonstration Research Corporation. Retrieved July 10, 2006, from http://www.mdrc.org/publications/419/overview.html

Albert, B., Lippman, L., Franzetta, K., Ikramullah, E., Keith, J.D., Shwalb, R., Ryan, S., and Terry-Human, E. (2005). *Freeze Frame: A Snapshot of America's Teens*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Anderman, E.M., and Maehr, M.L. (1994). Motivation and Schooling in the Middle Grades. *Review of Educational Research, 64*(22): 287-309.

Anderson, A., Hattie, J., and Hamilton, R.J. (2005). Locus of Control, Self-Efficacy, and Motivation in Different Schools: Is Moderation the Key to Success? *Educational Psychology, 25*(5): 517-535.

Bandura, A., Barbaranelli, C., Caprara, G.V., and Pastorelli, C. (2001). Self-Efficacy Beliefs as Shapers of Children's Aspirations and Career Trajectories. *Child Development, 72*(1): 187-206.

Bluestein, J. (2001). *Creating Emotionally Safe Schools.* Deerfield Beach, FL: Health Communications, Inc.

Blum, R., and Rinehart, P. (1997). *Reducing the Risk: Connections That Make a Difference in the Lives of Youth*. Minneapolis: University of Minnesota, Division of General Pediatrics, Adolescent Health.

Boyce, K.B., and Rose, H.A. (2002). Risk and Resiliency Factors Among Adolescents Who Experience Marital Transitions. *Journal of Marriage and Family, 64*(4): 1024-1037.

Branden, N. (1995). *The Six Pillars of Self-Esteem.* New York: Bantam.

Cameto, R., Marder, C., Cadwallader, T.W., and Wagner. M. (2003). The Daily Living and Social Skills of Youth With Disabilities. In M. Wagner, C. Marder, P. Levine, R. Cameto, T.W. Cadwallader, and J. Blackorby (With D. Cardoso and L. Newman), *The Individual and Household Characteristics of Youth With Disabilities*. Menlo Park, CA: SRI International. Available at http://www.nlts2.org/reports/components/component1.html

Conover, W.J. (1971). *Practical Nonparametric Statistics*. New York: John Wiley and Sons.

Covington, M. (1989). Self-Esteem and Failure in School. In A. Mecca, N. Smelser, and J. Vasconcellos (Eds.), *The Social Importance of Self-Esteem*. Berkeley, CA: University of California Press.

Crockenberg, S., and Soby, B. (1989). Self-Esteem and Teenage Pregnancy. In A. Mecca, N. Smelser, and J. Vasconcellos (Eds.), *The Social Importance of Self-Esteem*. Berkeley, CA: University of California Press.

Dacey, J., Kenny, M., and Margolis, D. (2000). *Adolescent Development*. London: Thomas Learning Publishing.

Damon, W., and Hart, D. (1988). *Self Understanding in Childhood and Adolescence*. New York: Cambridge University Press.

Draper, P., and Belsky, J. (1990). Personality Development in Evolutionary Perspective. *Journal of Personality, 58*: 141-157.

Durham, B., Danner, M., and Seyfrit, C. (1999). *Immediate Post High School Educational Activities: A Rural Area Study*. (ERIC EDRS 477286)

Erermis, S., Cetin, N., Tama, M., Bukusoglu, N., Akdeniz, F., and Goksen, D. (2004). Is Obesity a Risk Factor for Psychopathology Among Adolescents? *Pediatrics International, 46*(3): 296-301.

Erikson, E. (1968). *Identity, Youth, and Crisis*. New York: Norton.

Evangelista, N.M., Owens, J.S., Golden, C.M., Gnagy, E.M., Townsend, A., and Pelham, W.E. (2004). *The Positive Illusory Bias in ADHD Children: Replication of the Effects of ADHD Subtype Characteristics*. Poster presented at the 38th annual convention of the Association for Advancement of Behavior Therapy, New Orleans, LA.

Faircloth, B.S., and Hamm, J.V. (2005). Sense of Belonging Among High School Students Representing 4 Ethnic Groups. *Journal of Youth and Adolescence, 34*(4): 293-309.

Ferguson, J. (2004). *Adolescent Health and Development. Measuring Risk and Protective Factors*. Presentation to the Committee on Adolescent Health and Development, Board of Children, Youth, and Families, National Academies of Sciences, Washington, DC, May 12-14, 2004. Retrieved August 3, 2006, from http://www.bocyf.org/ferguson_presentation.pdf

Field, S., Martin, J., Miller, R., Ward, M., and Wehmeyer, M. (1998). A Practical Guide to Teaching Self-Determination. *Exceptional Children*, *70*(4): 427-439.

Finn, J.D. (2006). *The Adult Lives of At-Risk Students: The Role of Attainment and Engagement in High School* (NCES 2006-328). U.S. Department of Education, Washington, DC: National Center for Education Statistics.

Franse, S., and Siegel, A. (1987). A Case for Collaboratives: Turning Around the Bronx Public Schools. *Urban Review*, *19*(2): 129-135.

Fredricks, J.A., and Eccles, J.S. (2006). Is Extracurricular Participation Associated With Beneficial Outcomes? Concurrent and Longitudinal Relations. *Developmental Psychology 42*(4): 698-713.

Gresham, F.M., Lane, K.L., MacMillan, D.L., Bocian, K.M., and Ward, S.L. (2000). Positive and Negative Illusory Bias: Comparisons Across Social and Academic Self-Concept Domains. *Journal of School Psychology*, *38*(2): 151-175.

Gresham, F.M., and MacMillan, D.L. (1997). Social Competence and Affective Characteristics of Students With Mild Disabilities. *Review of Educational Research*, *67*(4): 377-415.

Hadwin, A.F., Winne, P.H., Stockley, D.B., Nesbit, J.C., and Woszczyna, C. (2001). Context Moderates Students' Self-Reports About How They Study. *Journal of Educational Psychology*, *93*(3): 477-487.

Haney, P., and Durlak, J.A. (1998). Changing Self-Esteem in Children and Adolescents: A Meta-Analytical Review. *Journal of Clinical Child Psychology, 27*(4): 423-433.

Harter, S. (1999). *The Construction of the Self. A Developmental Perspective*. New York: Guilford Press.

Harter, S. (1990). Self and Identity Development. In S. Feldman and G. Elliot (Eds.), *At the Threshold: The Developing Adolescent*. Cambridge, MA: Harvard University Press.

Heath, N.L., and Glen, T. (2005). Positive Illusory Bias and the Self-Protective Hypothesis in Children With Learning Disabilities. *Journal of Clinical Child and Adolescent Psychology, 34*(2): 272-281.

Herman, K.C., and Tucker, C.M. (2000). Engagement in Learning and Academic Success Among At-Risk Latino American Students. *Journal of Research and Development in Education, 33*(3): 129-136.

Hoza, B., Pelham, W.E., Dobbs, J., Owens, J.S., and Pillow, D.R. (2002). Do Boys With Attention-Deficit/Hyperactivity Disorder Have Positive Illusory Self-Concepts? *Journal of Abnormal Psychology, 111*(2): 268-278.

Hudley, C., Daoud, A., Hershberg, R., Wright-Castro, R., and Polanco, T. (2002). *Factors Supporting School Engagement and Achievement Among Adolescents.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Hudley, C., Daoud, A., Polanco, T., Wright-Castro, R., and Hershberg, R. (2003). *Student Engagement, School Climate, and Future Expectations in High School.* Paper presented at the biennial meeting of the Society for Research in Child Development, Tampa, FL.

Jaccard J., Dittus, P.J., and Gordon, V.V. (1996). Maternal Correlates of Adolescent Sexual and Contraceptive Behavior. *Family Planning Perspectives, 28*(4): 159-165.

Johnson, N.L., and Kotz, S. (1970). *Distributions in Statistics: Continuous Univariate Distributions-2*. New York: John Wiley and Sons.

Jordan, L.C., and Lewis, M.L. (2005). Paternal Relationship Quality as a Protective Factor: Preventing Alcohol Use Among African American Adolescents. *Journal of Black Psychology, 31*(2): 151-171.

Klassen, R. (2006). Too Much Confidence? The Self-Efficacy Beliefs of Adolescents With Learning Disabilities. In F. Pajares and T. Urdan (Eds.), *Self-Efficacy Beliefs of Adolescents* (pp. 181-200). Greenwich, CT: Information Age.

Levine, P., Marder, C., and Wagner, M. (2004). *Services and Supports for Secondary School Students With Disabilities. A Special Topic Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Levine, P., and Wagner, M. (2005). Transition for Young Adults Who Received Special Education Services as Adolescents: A Time of Challenge and Change. In D.W. Osgood, E.M. Foster, C. Flanagan, and G.R. Ruth (Eds.), *On Your Own Without a Net: The Transition to Adulthood for Vulnerable Populations* (pp. 202-239). Chicago: University of Chicago Press.

Lifrak, P.D., McKay, J.R., Rostain, A., Alterman, A.I., and O'Brien, C.P. (1997). Relationship of Perceived Competencies, Perceived Social Support, and Gender to Substance Use in Young Adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(7): 933-940.

Liu, M., Hsieh, P., Cho, Y., and Schallert, D. (2006). Middle School Students' Self-Efficacy, Attitudes, and Achievement in a Computer-Enhanced Problem-Based Learning Environment. *Journal of Interactive Learning Research, 17*(3): 225-242.

Mahoney, J.L., Cairns, B.D., and Farmer, T.W. (2003). Promoting Interpersonal Competence and Educational Success Through Extracurricular Activity Participation. *Journal of Educational Psychology, 95*(4): 409-418.

Manlove, J. (1998). The Influence of High School Dropout and School Disengagement on the Risk of School-Age Pregnancy. *Journal of Research on Adolescence, 8*(2): 187-220.

Marder, C., Wagner, M., and Sumi, W.C. (2003). The Social Adjustment of Youth With Disabilities. In M. Wagner, C. Marder, J. Blackorby, R. Cameto, L. Newman, P. Levine, and E. Davies-Mercier (With M. Chorost, N. Garza, A. Guzman, and W.C. Sumi), *The Achievements of Youth With Disabilities During Secondary School. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Martin, G., Richardson, A.S., Bergen, H.A., Roeger, L., and Allison, S. (2005). Perceived Academic Performance, Self-Esteem, and Locus of Control as Indicators of Need for Assessment of Adolescent Suicide Risk: Implications for Teachers. *Journal of Adolescence, 28*(1): 75-87.

Miller, B.C. (1998). *Families Matter: A Research Synthesis of Family Influences on Adolescent Pregnancy*. Washington, DC: The National Campaign to Prevent Teen Age Pregnancy.

Miller, R.L. (1988). Positive Self-Esteem and Alcohol/Drug Related Attitudes Among School Children. *Journal of Alcohol and Drug Education*, *33*(3): 26-31.

Mruk, C. (1995). *Self-Esteem: Research, Theory, and Practice*. New York: Springer Publishing Company.

Murdock, T., Anderman, L., and Hodge, S. (2000). Middle-Grade Predictors of Students' Motivation and Behavior in High School. *Journal of Adolescent Research*, *15*: 327-351.

National Alliance for Secondary Education and Transition. (2005). *National Standards and Quality Indicators: Transition Toolkit for Systems Improvement*. Minneapolis: University of Minnesota, Institute for Community Integration.

National Center for Student Engagement. (n.d.). NCSE Approach. *NCSE Integrates the Three A's Necessary for School Success*. Retrieved June 5, 2006, from http://www.schoolengagement.org/index.cfm/NCSE%20Approach

Newmann, F.M. (1992). *Student Engagement and Achievement in American Secondary Schools.* New York: Teachers College Press.

Nolin, M.J., Montaquila, J., Nicchitta, P., Kim, K., Kleiner, B., Lennon, J., Chapman, C., Creighton, S., and Bielick S. (2001). *National Household Education Survey of 1999 Data Files*. Washington, DC: National Center for Education Statistics.

Nowicki, E.A. (2003). A Meta-Analysis of the Social Competence of Children With Learning Disabilities Compared to Classmates of Low and Average to High Achievement. *Learning Disability Quarterly, 26*(3): 171-188.

Nurmi, J.E. (1991). How Do Adolescents See Their Future? A Review of the Development of Future Orientation and Planning. *Developmental Review, 11*(1): 1-59.

Peetsma, T., Hascher, T., van der Veen, I., and Roede, E. (2005). Relations Between Adolescents' Self-Evaluations, Time Perspectives, Motivation for School and Their Achievement in Different Countries and at Different Ages. *European Journal of Psychology of Education*, *20*(3): 209-225.

Pintrich, P.R., Cross, D.R., Kozma, R.B., and McKeachie, W.J. (1986). Instructional Psychology. *Annual Review of Psychology, 37*: 611-651.

Repinski, D.J. (2002). Mothers' and Fathers' Behavior, Adolescents' Self-Representations, and Adolescents' Adjustment: A Mediational Model. *The Journal of Early Adolescence, 22*(4): 357-383.

Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Tabor, J., Beuhring, T., Sieving, R.E., Shew, M., Ireland, M., Bearinger, L.H., and Udry, J.R. (1997). Protecting Adolescents From Harm: Findings From the National Longitudinal Study of Adolescent Health. *Journal of the American Medical Association, 278*(10): 823-832.

Satterthwaite, F.E. (1946). An Approximate Distribution of Estimates of Variance Components. *Biometrics Bulletin, 2*(6): 110-114.

Schunk, D.H., and Meece, J.L. (Eds.). (1992). *Student Perceptions in the Classroom*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Schunk, D.H., and Zimmerman, B.J. (Eds.). (1994). *Self-Regulation of Learning and Performance*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Shell Oil Company. (1999). Teens Under Pressure, Coping Well. *The Shell Poll, 1*: 1-8.

Singh, K., Granville, M., and Dika, S. (2002). Mathematics and Science Achievement: Effects on Motivation, Interest, and Academic Engagement. *Journal of Educational Research, 95*(6): 323-332.

Sirin, S., Diemer, M., Jackson, L., Gonsalves, L., and Howell, A. (2004). Future Aspirations of Urban Adolescents: A Person-in-Context Model. *International Journal of Qualitative Studies in Education, 17*(3): 437-459.

Sirin, S., and Jackson, L.R. (2001). *Examining School Engagement of African American Adolescents* (Report No. UD034238). (ERIC ED423354)

Smari, J., Petrusdottir, G., and Porsteinsdottir, V. (2001). Social Anxiety and Depression in Adolescents in Relation to Perceived Competence and Situational Appraisal. *Adolescence, 24*(2): 199-207.

Smith, C., Lizotte, A.J., Thornberry, T.P., and Krohn, M.D. (1995). Resilient Youth: Identifying Factors That Prevent High-Risk Youth From Engaging in Delinquency and Drug Use. In J. Hagan (Ed.), *Delinquency and Disrepute in the Life Course* (pp. 217-247). Greenwich, CT: JAI Press.

Spencer, J.M., Zimet, G.D., Aalsma, M.C., and Orr, D.P. (2002). Self-Esteem as a Predictor of Initiation of Coitus in Early Adolescents. *Pediatrics, 109*(4): 581-584.

Trzesniewski, K.H., Donnellan, M.B., Moffitt, T.E., Robins, R.W., Poulton, R., and Caspi, A. (2006). Low Self-Esteem During Adolescence Predicts Poor Health, Criminal Behavior, and Limited Economic Prospects During Adulthood. *Development Psychology, 42*(2): 381-390.

Tuckman, B.W. (1999, August). *A Tripartite Model of Motivation for Achievement: Attitude/ Drive/Strategy*. Paper presented at the annual meeting of the American Psychological Association, Boston, MA.

Udry, J.R. (1998). The National Longitudinal Study of Adolescent Health (Add Health), Waves I and II, 1994-1996 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill.

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U.S. Department of Health and Human Services. (2001). *Youth Violence: A Report of the Surgeon General*. Washington, DC: Author. Retrieved July 27, 2006, from http://www.surgeongeneral.gov/library/youthviolence/chapter4/sec4.html

Wagner, M., Marder, C., Blackorby, J., Cameto, R., Newman, L., Levine, P., and Davies-Mercier, E. (With Chorost, M., Garza, N., Guzman, A., and Sumi, C.). (2003). *The Achievements of Youth With Disabilities During Secondary School. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Wagner, M., Marder, C., Levine, P., Cameto, P., Cadwallader, T.W., and Blackorby, J. (2003). *The Individual and Household Characteristics of Youth With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Wagner, M., Newman, L., and Cameto, R. (2004). *Changes Over Time in the Secondary School Experiences of Students With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Wagner, M., Newman, L., Cameto, R., Garza, N., and Levine, P. (2005). *After High School: A First Look at the Postschool Experiences of Youth With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Wagner, M., Newman, L., Cameto, R., and Levine, P. (2006). *The Academic Achievement and Functional Performance of Youth With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2)* (NCSER 2006-3000). Menlo Park, CA: SRI International.

Ward, M.J. (1988). The Many Facets of Self-Determination. *NICHCY Transition Summary: National Information Center for Children and Youth With Disabilities*, *5*: 2-3.

Wehmeyer, M.L. (1997). Student-Directed Learning and Self-Determination. In M. Agran (Ed.), *Student-Directed Learning: Teaching Self-Determination Skills* (pp. 28-59). Pacific Grove, CA: Brooks/Cole Publishing.

Wehmeyer, M.L. (2000). *The Arc's Self-Determination Scale: Procedural Guidelines (Revised).* Silver Springs, MD: The Arc of the United States.

Weinstein, C.E., and Mayer, R.E. (1986). The Teaching of Learning Strategies. In M. Wittrock (Ed.), *Handbook of Research on Teaching*. New York: MacMillan.

Welch, B.L. (1947). The Generalization of 'Student's' Problem When Several Different Population Variances are Involved. *Biometrika, 3*: 28-35.

Wigfield, A., and Eccles, J.S. (Eds.). (2002). *Development of Achievement Motivation*. Chicago: University of Chicago Press.

Wilks, S. (1962). *Mathematical Statistics*, New York: John Wiley and Sons.

Woodcock, R.W., McGrew, K.S., and Mather, N. (2001). *Woodcock-Johnson Tests of Academic Achievement—Research edition*. Itasca, IL: Riverside Publishing.

World Health Organization. (2002). Broadening the Horizon. Balancing Protection and Risk for Adolescents. Geneva, Switzerland: Author. Retrieved August 3, 2006, from http://www.who.int/reproductive-health/publications/cah_docs/cah_01_20.html

Wyman, P.A., Cowen, E.L., Work, W.C., and Kerley, J.H. (1993). The Role of Children's Future Expectations in Self-System Functioning and Adjustment to Life Stress: A Prospective Study of Urban At-Risk Children. *Development and Psychopathology, 5*(4): 649-661.

Yun, J., and Kurlaender, M. (2004). School Racial Composition and Student Educational Aspirations: A Question of Equity in a Multiracial Society. *Journal of Education for Students Placed at Risk, 9*(2): 143-168.

Zimmerman, M.A. (1990). Toward a Theory of Learned Hopefulness: A Structural Model Analysis of Participation and Empowerment. *Journal of Research in Personality*, *24*(1): 71-86.

Appendix A

NLTS2 Sampling, Data Collection, and Analysis Procedures

Appendix A. NLTS2 Sampling, Data Collection, and Analysis Procedures

Appendix A describes the following aspects of the NLTS2 methodology relevant to the data reported here:

- sampling local education agencies (LEAs) and students;[1]
- data sources and response rates;
- weighting the youth data;
- estimation and use of standard errors;
- calculating statistical significance; and
- disability classifications.

NLTS2 Sample Overview

The NLTS2 sample was constructed in two stages. A stratified random sample of 3,634 local education agencies (LEAs) was selected from the universe of approximately 12,000 LEAs that serve students receiving special education in at least one grade from 7th through 12th grades. These LEAs and 77 state-supported special schools that served primarily students with hearing and vision impairments and multiple disabilities were invited to participate in the study, with the intention of recruiting 497 LEAs and as many special schools as possible from which to select the target sample of about 12,000 students. The target LEA sample was reached; 501 LEAs and 38 special schools agreed to participate and provided rosters of students receiving special education in the designated age range, from which the student sample was selected.

The roster of all students in the NLTS2 age range who were receiving special education from each LEA[2] and special school was stratified by disability category. Students then were selected randomly from each disability category. Sampling fractions were calculated that would produce enough students in each category so that, in the final study year, findings will generalize to most categories individually with an acceptable level of precision, accounting for attrition and for response rates to the parent/youth interview. A total of 11,276 students were selected and eligible to participate in NLTS2.

Details of the LEA and student samples are provided below.

The NLTS2 LEA Sample

Defining the Universe of LEAs

The NLTS2 sample includes only LEAs that have teachers, students, administrators, and operating schools—that is, "operating LEAs." It excludes such units as supervisory unions;

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[1] More details of the sample are available in SRI International (2000).

[2] LEAs were instructed to include on the roster any student for which they were administratively responsible, even if the student was not educated within the LEA (e.g., attended school sponsored by an education cooperative or was sent by the LEA to a private school). Despite these instructions, some LEAs may have underreported students served outside the LEA.

Bureau of Indian Affairs schools; public and private agencies, other than LEAs, that educate children (e.g., correctional facilities); LEAs from U.S. territories; and LEAs with 10 or fewer students in the NLTS2 age range, which would be unlikely to have students with disabilities.

The public school universe data file maintained by Quality Education Data (QED 1999) was used to construct the sampling frame because it had more recent information than the alternative list maintained by the National Center for Education Statistics. Correcting for errors and duplications resulted in a master list of 12,435 LEAs that met the selection criteria. These comprised the NLTS2 LEA sampling frame.

Stratification

The NLTS2 LEA sample was stratified to increase the precision of estimates, to ensure that low-frequency types of LEAs (e.g., large urban districts) were adequately represented in the sample, and to improve comparisons with the findings of other research. Three stratifying variables were used.

Region. The regional classification variable selected was used by the Department of Commerce, the Bureau of Economic Analysis, and the National Assessment of Educational Progress (categories are Northeast, Southeast, Midwest, and West).

LEA size (student enrollment). The QED database provides enrollment data from which LEAs were sorted into four categories serving approximately equal numbers of students:

- **very large** (estimated[3] enrollment greater than 14,931 in grades 7 through 12);
- **large** (estimated enrollment from 4,661 to 14,930 in grades 7 through 12);
- **medium** (estimated enrollment from 1,622 to 4,660 in grades 7 through 12); and
- **small** (estimated enrollment from 11 to 1,621 in grades 7 through 12).

LEA/community wealth. As a measure of district wealth, the Orshansky index (the proportion of the student population living below the federal definition of poverty; Employment Policies Institute 2002) is a well-accepted measure. The distribution of Orshansky index scores was organized into four categories of LEA/community wealth, each containing approximately 25 percent of the student population in grades 7 through 12:

- **high** (0 percent to 13 percent Orshansky);
- **medium** (14 percent to 24 percent Orshansky);
- **low** (25 percent to 43 percent Orshansky); and
- **very low** (more than 43 percent Orshansky).

The three stratifying variables generate a 64-cell grid into which the universe of LEAs was arrayed.

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[3] Enrollment in grades 7 through 12 was estimated by dividing the total enrollment in all grade levels served by an LEA by the number of grade levels to estimate an enrollment per grade level. This was multiplied by 6 to estimate the enrollment in grades 7 through 12.

LEA Sample Size

On the basis of an analysis of LEAs' estimated enrollment across LEA size, and estimated sampling fractions for each disability category, 497 LEAs (and as many state-sponsored special schools as would participate) were considered sufficient to generate the student sample. Taking into account the rate at which LEAs were expected to refuse to participate, a sample of 3,634 LEAs was invited to participate, from which 497 participating LEAs might be recruited. A total of 501 LEAs actually provided students for the sample, 101 percent of the target number needed and 14 percent of those invited. Analyses of the region, size, and wealth of the LEA sample, both weighted and unweighted, confirmed that that the weighted LEA sample closely resembled the LEA universe with respect to those variables.

In addition to ensuring that the LEA sample matched the universe of LEAs on variables used in sampling, it was important to ascertain whether the stratified random sampling approach resulted in skewed distributions on relevant variables not included in the stratification scheme. Several analyses were conducted.

First, three variables from the QED database were chosen to compare the "fit" between the first-stage sample and the population: the LEA's racial/ethnic distribution of students, the proportion who attended college, and the urban/rural status of the LEA. This analysis revealed that the sample of LEAs somewhat underrepresented African American students and college-bound students and overrepresented Hispanic students and LEAs in rural areas. Thus, in addition to accounting for stratification variables, LEA weights were calculated to achieve a distribution on the urbanicity and racial/ethnic distributions of students that matched the universe.

To determine whether the resulting weights, when applied to the participating NLTS2 LEAs, accurately represented the universe of LEAs serving the specified grade levels, data collected from the universe of LEAs by the U.S. Department of Education's Office of Civil Rights (OCR) and additional items from QED were compared for the weighted NLTS2 LEA sample and the universe. Finally, the NLTS2 participating LEAs and a sample of 1,000 LEAs that represented the universe of LEAs were surveyed to assess a variety of policies and practices known to vary among LEAs and to be relevant to secondary-school-age youth with disabilities (e.g., whether districts had a transition coordinator in each high school, whether there were written agreements with specific kinds of agencies to provide transition services to youth upon leaving school). Analyses of both the extant databases and the LEA survey data confirm that the weighted NLTS2 LEA sample accurately represents the universe of LEAs.

The NLTS2 Student Sample

Determining the size of the NLTS2 student sample took into account the duration of the study, desired levels of precision, and assumptions regarding attrition and response rates. Analyses determined that approximately three students would need to be sampled for each student who would have a parent/youth interview in Wave 5 of NLTS2 data collection.

The NLTS2 sample design called for findings to be generalizable to students receiving special education as a whole and for the 12 special education disability categories currently in use and reported in this document. Standard errors were to be no more than 3.6 percent, except for the low-incidence categories of traumatic brain injury and deaf-blindness. Thus, by sampling 1,250 students per disability category (with the two exceptions noted) 402 students per category were expected to have a parent or youth interview in year 9. Assuming a 50 percent sampling efficiency (which is likely to be exceeded for most disability categories), 402 students would achieve a standard error of estimate of slightly less than 3.6 percent. All students with traumatic brain injury or with deaf-blindness in participating LEAs and special schools were selected. Students were disproportionately sampled by age to ensure that there would be an adequate number of students who were age 24 or older at the conclusion of the study. Among the eligible students, 40.2 percent will be 24 or older as of the final interview.

LEAs and special schools were contacted to obtain their agreement to participate in the study and request rosters of students receiving special education who were ages 13 through 16 on December 1, 2000, and in at least seventh grade.[4] Requests for rosters specified that they contain the names and addresses of students receiving special education under the jurisdiction of the LEA, the disability category of each student, and the students' birthdates or ages. Some LEAs would provide only identification numbers for students, along with the corresponding birthdates and disability categories. When students were sampled in these LEAs, identification numbers of selected students were provided to the LEA, along with materials to mail to their parents/guardians (without revealing their identity).

After estimating the number of students receiving special education in the NLTS2 age range, the appropriate fraction of students in each category was selected randomly from each LEA and special school. In cases in which more than one child in a family was included on a roster, only one was eligible to be selected. LEAs and special schools were notified of the students selected and contact information for their parents/guardians was requested.

Data Sources

Table A-1 identifies the source of data for each variable included in this report. The data that are the primary focus of the report were collected in Wave 2 (2003) through telephone interviews with youth whose parents reported they could respond to questions by phone for themselves, supplemented by mail questionnaires for youth who parents reported could answer questions for themselves but not by telephone. Self-determination skills were measured as part of an in-person interview that accompanied a direct assessment of youth's academic achievement. Parents' expectations and most individual and household characteristics were drawn from a survey of parents of NLTS2 youth, conducted by telephone and mail, in Wave 1 (2001).

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[4] Students who were designated as being in ungraded programs also were sampled if they met the age criteria.

Table A-1. Data sources for variables included in this report

Variable	Wave 2 youth telephone interview/mail survey	In-person youth interview	Wave 1 parent interview/ survey	Student's school program survey	School/ district student roster
Strengths and interests	✓				
Self-concept (nice, proud, able to cope, useful and important)	✓				
Has a disability	✓				
Feelings about life (depressed, enjoys life, life is full of interesting things to do, hopeful for the future)	✓				
Self-determination skills		✓			
Competent to tell peers feelings, get adults to listen, get information youth needs	✓				
Knows what services needed for disability	✓				
Tells professionals opinions on services provided	✓				
Academic challenges (school is hard, has trouble completing homework, paying attention)	✓				
Getting along with teachers and students	✓				
Feels safe at school	✓				
School provides services needed to do well	✓				
Feels part of school, belongs to school group(s)	✓				
Participates at school when has a chance		✓			
Enjoys school	✓				
Relationships with family, other adults	✓				
Relationships with friends	✓				
Can find a friends when needs one	✓	✓			
Feels lonely, disliked	✓				
Sources of support	✓				
Youth's expectations for the future	✓				
Parents' expectations for youth's future			✓		
Disability category					✓
Skills scales (self-care, cognitive, social, persistence)			✓		
Ability to understand speech, see, hear, use arms/hands, use legs/feet			✓		
Number domains with functional limitation			✓		
General health			✓		
Age at disability identification/first special education services			✓		
Age					✓
Gender			✓		
Race/ethnicity			✓		
Household income			✓		
Attends special school			✓		

Telephone Interviews

Wave 2 constituted the first time data were collected by telephone or mail directly from youth, and the combined youth phone interview/mail survey data set is the primary data source for this report. In addition, the Wave 1 parent interview/survey provides items related to parents' expectations and characteristics of youth.

Wave 2 youth telephone interview/mail survey. NLTS2 sample members for whom working telephone numbers and addresses were available were eligible for the Wave 2 parent/youth telephone interview in 2003. Matches of names, addresses, and telephone numbers of NLTS2 parents with existing national locator databases were conducted to maximize the completeness and accuracy of contact information and subsequent response rates. Letters were sent to parents to notify them that an interview would be attempted in the next few weeks; the letter included a toll-free telephone number for parents to call to be interviewed if they did not have a telephone number where they could be reached reliably or if they wanted to make an appointment for the interview at a specific time. Computer-assisted telephone interviewing (CATI) was used for parent and youth interviews, which were conducted between early May and mid-December 2003.

The first interview contact was made with parents of eligible sample members. Those who agreed to participate were interviewed using CATI. Items in this portion of the interview, referred to as Parent Part 1, focused on topics for which the parent was considered the most appropriate respondent (e.g., services received, family expectations). At the end of Parent Part 1, the respondent was asked the following:

> *My next questions are about jobs (YOUTH'S NAME) may have had, schools (he/she) may have gone to, and about (his/her) feelings about (him/herself) and (his/her) life. The questions are similar to those I've been asking you, where (he/she) will be asked to answer using scales, like "very well," "pretty well," "not very well," or "not at all well." The interview would probably last about 20 to 30 minutes. Do you think that (YOUTH'S NAME) would be able to accurately answer these kinds of questions over the telephone?*

If youth could answer questions by phone, they also were told:

> *I also have some questions about (his/her) involvement in risk behaviors, like smoking, drinking, and sexual activity. Is it all right for me to ask (YOUTH"S NAME) questions like that?*

If parents consented, interviewers asked to speak with the youth or asked for contact information to reach the youth in order to complete the youth portion of the interview, referred to as Youth Part 2.

Parents who reported that youth could not answer questions by telephone were asked:

> *Would (he/she) be able to accurately answer these kinds of questions using a written questionnaire?*

If parents indicated youth could complete a written questionnaire, they were asked for the best address to which to send a questionnaire, and a questionnaire was sent. The questionnaire contained a subset of items from the telephone interview that were considered most important for understanding the experiences and perspectives of youth. Multiple follow-up phone or mail contacts were made to maximize the response rate for the mail survey. Data from the mail survey and Youth Part 2 of the telephone interview were merged for analysis purposes.

If parents reported that youth could not answer questions either by telephone or written questionnaire or declined to have youth asked questions related to risk behaviors, interviewers asked them to continue the interview, referred to as Parent Part 2. If youth were reported to be able to complete a telephone interview or a written questionnaire but did not after repeated attempts, parents were contacted again and asked to complete Parent Part 2 in lieu of Youth Part 2. Parent Part 2 did not include the items that are the focus of this report because they could only be answered by youth themselves.

Wave 1 parent interview/survey. The NLTS2 conceptual framework suggests that a youth’s nonschool experiences, such as extracurricular activities and friendships; historical information, such as age when disability was first identified; household characteristics, such as socioeconomic status; and a family’s level and type of involvement in school-related areas are related to student outcomes. Parents/guardians are the most knowledgeable about these aspects of students’ lives. They also are important sources of information on outcomes across domains. Thus, parents/guardians of NLTS2 sample members were interviewed by telephone or surveyed by mail in 2001, as part of Wave 1 data collection. Interviews were conducted between mid-May and late September 2001.

All parents who could not be reached by telephone were mailed a self-administered questionnaire in a survey period that extended from September through December 2001. The questionnaire contained a subset of key items from the telephone interview.

Table A-2 reports the sample members for whom there are data from the Wave 1 parent interview and mail survey and from the Wave 2 Parent Part 1 and Parent Part 2 telephone interviews and the Youth Part 2 telephone/mail survey.

Table A-2. Response rates for NLTS2 Waves 1 and 2 parent/youth data collection

Respondents	Number	Percent
Wave 1		
Total eligible sample	11,276	100.0
Respondents		
Completed telephone interview	8,672	76.9
Partial telephone interview completed	300	2.7
Completed mail questionnaire	258	2.3
Total respondents	9230	81.9
Total nonrespondents	2,046	18.1
Wave 2		
Total eligible sample	8,210	100.0
Respondents		
Completed Parent Part 1 telephone interview	6,859	83.5
Completed Parent Part 2 telephone interview	2,962	36.1
Completed Youth Part 2 telephone interview or mail questionnaire	3,360	41.9
Total respondents with Part 1 and either Parent or Youth Part 2	6,322	77.0
Total nonrespondents (no parent or youth data)	1,352	16.5

Note: Only a subsample of the total eligible sample was actually eligible to participate in the self-report components of the study.

In-Person Youth Interviews

An interview was conducted with each youth for whom a direct assessment of academic abilities was completed. An assessment was attempted for each NLTS2 sample member for whom a Wave 1 telephone interview or mail questionnaire or a Wave 2 telephone interview had been completed by a parent and parental consent for the assessment had been provided. Youth were eligible for an assessment during the data collection wave in which they were 16 through 18 years old.[5] This age range was selected to limit the variability in performance that could be attributed to differences in the ages of the youth participating and to mesh with the every-2-year data collection cycle of the study. The study design linked the timing of assessments with school data collection (conducted in 2002 and 2004) because most direct assessments took place at school.

The oldest two single-year age cohorts of youth (i.e., those ages 15 or 16 when sampled) reached the eligible age range in Wave 1 (2002); 5,071 youth met the eligibility criteria for assessment at that time (see table A-3). The number of eligible youth in the younger two cohorts (those ages 13 or 14 when sampled) reached the eligible age range when Wave 2 school data were collected; 4,343 youth met the criteria in 2004. Assessment data were collected for 6,273 youth, including 3,160 who were 16 through 18 years old and eligible in Wave 1 (the 2001-02 school year) and 3,113 who were age-eligible in Wave 2 (the 2003-04 school year). Data from the two waves have been combined for the analyses included in this report; however, findings are reported from the in-person interview only for youth who also responded to either the Wave 2 youth telephone interview or mail survey.

Table A-3. Response rates for NLTS2 youth assessments

Responses	Number	Percent
Wave 1		
Eligible sample	5,071	100.0
Completed assessment/ in-person interview	2,583	50.9
Wave 2		
Eligible sample	4,343	100.0
Completed assessment/ in-person interview	2,639	60.7
Total		
Eligible sample	9,414	100.0
Completed assessment/ in-person interview	5,222	55.4

Weighting the Youth Data

As noted in chapter 1, the percentages and means reported in the data tables throughout this report are estimates of the true values for the population of youth with disabilities in the NLTS2 age range who are able to respond to telephone interview or mail survey questions for themselves. The response for each sample member is weighted to represent the number of youth in his or her disability category in the kind of LEA (i.e., region, size, and wealth) or special school from which he or she was selected and whose parent would have indicated the youth could respond to questions for him/herself if the youth had been included in the sample.

Table A-4 illustrates the concept of sample weighting and its effect on values that are calculated for youth with disabilities as a group. In this example, 10 students are included in a sample, 1 from each of 10 disability groups, and each has a hypothetical likelihood of responding “yes” to the question “Can you find a friend when you need one?” Summing the hypothetical values for the 10 youth results in an average of 74.6 for the full group. However, this would not accurately represent the national population of youth with disabilities because many more youth are classified as having a learning disability than orthopedic or other health impairments, for example. Therefore, in calculating a population estimate, weights in the example are applied that correspond to the proportion of youth in the population who are from each disability category (actual NLTS2 weights account for disability category and several aspects of the districts from

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[5] Wave 1 assessments also included 10 youth whose assessments were not completed until shortly after their 19th birthdays.

which they were chosen). The sample weights for this example appear in column C. Using these weights, the weighted population estimate is 84.8 percent. The percentages in all NLTS2 tables are similarly weighted population estimates, whereas the sample sizes are the actual number of cases on which the weighted estimates are based (similar to the 10 cases in table A-4).

The youth in LEAs and state schools with data for each survey were weighted to represent the universe of students in LEAs and state schools using the following process:

- For each of the 64 LEA sampling cells, an LEA student sampling weight was computed. This weight is the ratio of the number of students in participating LEAs in that cell divided by the number of students in all LEAs in that cell in the universe of LEAs. The weight represents the number of students in the universe who are represented by each student in the participating LEAs. For example, if participating LEAs in a particular cell served 4,000 students and the universe of LEAs in the cell served 400,000 students, then the LEA student sampling weight would be 100.

Table A-4. Example of weighted percentage calculation

	A	B	C	D
Disability category	Number in sample	Likelihood of responding “yes” to question “Can you find a friend when you need one?”	Example weight for category	Weighted value for category
Learning disability	1	79	5.5	434.5
Speech/language impairment	1	78	2.2	171.6
Mental retardation	1	71	1.1	78.1
Emotional disturbance	1	77	.9	69.3
Hearing impairment	1	82	.2	16.4
Visual impairment	1	80	.1	8.0
Orthopedic impairment	1	79	.1	7.9
Other health impairment	1	74	.6	44.4
Autism	1	47	.2	9.4
Multiple disabilities	1	79	.1	7.9
Total	10	746	10	847.5
	Unweighted sample percentage = 74.6 (Column B total divided by Column A total)		Weighted population estimate = 84.8 (Column D total divided by Column C total)	

- For each of the 64 LEA cells, the number of students in a disability category was estimated by multiplying the number of students with that disability on the rosters of participating LEAs in a cell by the adjusted LEA student sampling weight for that cell. For example, if 350 students with learning disabilities were served by LEAs in a cell, and the LEA student sampling weight for that cell was 100 (that is, each student in the sample of participating LEAs in that cell represented 100 students in the universe), there would be an estimated 35,000 students with learning disabilities in that cell in the universe.
- For the state schools, the number of students in each disability category was estimated by multiplying the number of students with that disability on the rosters by the inverse of the proportion of state schools that submitted rosters.

- Initial student weights were calculated for each cell by disability as the estimated number of students in that cell divided by the number of respondents in that cell.
- Weights were adjusted by disability category using a raking algorithm so that the sum of the weights by geographical region, wealth, LEA size, and ethnicity was equal to the estimated national distribution for that disability. The adjustments were typically small and essentially served as a nonresponse adjustment. However, the adjustments could become substantial when there were relatively few interviewees (as occurred in the small and medium strata for the lowest-incidence disabilities) because in these cases, there might not be any interviewees in some cells, and it was necessary to adjust the weights of other interviewees to compensate. Two constraints were imposed on the adjustments: (1) within each size stratum, the cells' weights could not vary from the average weight by more than a factor of 2, and (2) the average weight within each size strata could not be larger than 4 times the overall average weight. These constraints substantially increased the efficiency of the sample at the cost of introducing a small amount of weighting bias.
- In a final step, the weights were adjusted so that they summed to the number of students in each disability category, as reported to OSEP by the states for the 2000-01 school year (Office of Special Education Programs 2001).

Estimating Standard Errors

Each estimate reported in the data tables is accompanied by a standard error. A standard error acknowledges that any population estimate that is calculated from a sample will only approximate the true value for the population. The true population value will fall within the ranged demarcated by the estimate, plus or minus 1.96 times the standard error 95 percent of the time. For example, if an estimate for youth holding a particular view is 29 percent, with a standard error of 1.82, one can be 95 percent confident that the true rate of holding the view in question for the population is between 25.4 percent and 32.6 percent.

Because the NLTS2 sample is both stratified and clustered, calculating standard errors by formula is not straightforward. Standard errors for means and proportions were estimated using pseudoreplication, a procedure that is widely used by the U.S. Census Bureau and other federal agencies involved in fielding complex surveys. To that end, a set of weights was developed for each of 32 balanced half-replicate subsamples. Each half-replicate involved selecting half of the total set of LEAs that provided contact information using a partial factorial balanced design (resulting in about half of the LEAs being selected within each stratum) and then weighting that half to represent the entire universe. The half-replicates were used to estimate the variance of a sample mean by (1) calculating the mean of the variable of interest on the full sample and each half-sample using the appropriate weights; (2) calculating the squares of the deviations of the half-sample estimate from the full sample estimate; and (3) adding the squared deviations and dividing by (n-1) where n is the number of half-replicates.

Although the procedure of pseudoreplication is less unwieldy than development of formulas for calculating standard errors, it is not easily implemented using the Statistical Analysis System (SAS), the analysis program used for NLTS2, and it is computationally intensive. In the past, it was possible to develop straightforward estimates of standard errors using the effective sample size.

When respondents are independent and identically distributed, the effective sample size for a weighted sample of N respondents can be approximated as

$$N_{eff} = N\left(E^2[W] \Big/ E^2[W] + V[W] \right)$$

where N_{eff} is the effective sample size, $E^2[W]$ is the square of the arithmetic average of the weights and $V[W]$ is the variance of the weights. For a variable X, the standard error of estimate can typically be approximated by $\sqrt{V[X]/N_{eff}}$, where $V[X]$ is the weighted variance of X.

Due to the complex NLTS2 sampling design, traditional variance estimates for weighted means will not yield accurate estimates. One method for estimating the variances of weighted means is to use pseudo-replication on the primary sampling units. Unfortunately, this method is computationally intensive. We developed a computationally less intensive variance formula, which was tested by calculating variance estimates using pseudo-replication and the alternative formula for a variety of categorical and continuous Wave 1 variables. Overall, the formula yielded excellent average agreement, but there were instances of under- and over-estimation, which could have been due to sampling variability in either variance estimate (i.e., the estimate obtained via pseudo-replication, or the estimate obtained via the alternative formula). To be conservative (i.e., not to inadvertently underestimate the variance), we modified the alternative variance formula by incorporating a "safety factor" by multiplying the formula-derived variance by 1.25. This yielded estimates via modified formula that slightly exceeded the variance estimates via pseudo-replication for approximately 90% of the categorical and 90% of the continuous variables that were examined.

Determining Statistical Significance

The following formula was used to determine the statistical significance of the differences between independent groups.

$$F = \frac{(P_1 - P_2)^2}{SE_1^2 + SE_2^2}$$

For example, the formula above could be used to determine whether the difference in the percentages of students who report a particular view among students with learning disabilities and among those with hearing impairments is greater than would be expected to occur by chance. In this formula, P_1 and SE_1 are the first percentage and its standard error and P_2 and SE_2 are the second percentage and the standard error. The squared difference between the two percentages of interest is divided by the sum of the two squared standard errors.

If the product of a calculation is larger than 3.84 (i.e., 1.96^2), the difference is statistically significant at the .05 level—that is, it would occur by chance fewer than 5 times in 100. If the result of the calculation is at least 6.63, the significance level is .01; products of 10.8 or greater are significant at the .001 level (Owen 1962, pp. 12, 51).

Testing for the significance of differences in responses to two survey items for the same individuals involves identifying for each youth the pattern of response to the two items. Responses to each item (e.g., the youth reported relying "a lot" on parents for support—yes or no—and reported relying on friends “a lot” for support—yes or no) are scored as 0 or 1, producing difference values for individual students of +1 (responded affirmatively to the first item but not the second), 0 (responded affirmatively to both or neither item), or -1 (responded affirmatively to the second item but not the first). The test statistic is the square of a ratio, where the numerator of the ratio is the weighted mean change score and the denominator is an estimate of the standard error of that mean. Since the ratio approaches a normal distribution by the Central Limit Theorem, for samples of the sizes included in the analyses, this test statistic approximately follows a chi-square distribution with one degree of freedom—i.e., an $F(1, \text{infinity})$ distribution.

Regardless of whether comparisons are for independent or dependent samples, a large number of statistical analyses were conducted and are presented in this report. Since no explicit adjustments were made for multiple comparisons, the likelihood of finding at least one statistically significant difference when no difference exists in the population is substantially larger than the Type 1 error for each individual analysis. This may be particularly true when many of the variables on which the groups are being compared are measures of the same or similar constructs, as is the case in this report. To partially compensate for the number of analyses that were conducted, we used a relatively conservative p value of .01. The text mentions only differences that reach a level of statistical significance of at least $p < .01$. If no level of statistical significance is reported, the group differences described do not attain the $p < .01$ level of statistical significance. Readers also are cautioned that the meaningfulness of differences reported here cannot be inferred from their statistical significance.

Categorizing Students by Primary Disability

Information about the nature of students’ disabilities came from rosters of all students in the NLTS2 age range receiving special education services in the 2000-01 school year under the auspices of participating LEAs and state-supported special schools. In analyses in this report, students are 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 (table A-10), 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 (see, for example, MacMillan and Siperstein 2002). Therefore, 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.

The exception to reliance on school or district category assignment involves students with deaf-blindness. District variation in assigning students with both hearing and visual impairments to the category of deaf-blindness results in many students with those dual disabilities being assigned to other primary disability categories, most often hearing impairment, visual impairment, and multiple disabilities. Because of these classification differences, national estimates suggest that there were 3,196 students with deaf-blindness who were ages 12 to 17 in 1999 (National Technical Assistance Center 1999), whereas the federal child count indicated that 681 were classified with deaf-blindness as their primary disability (Office of Special Education Programs 2001).

To describe the characteristics and experiences of the larger body of youth with deaf-blindness more accurately and precisely, students who were reported by parents or by schools or school districts[6] as having both a hearing and a visual impairment were assigned to the deaf-blindness category for purposes of NLTS2 reporting, regardless of the primary disability category assigned by the school or school district. This increased the number of youth with deaf-blindness for whom parent data were collected from 24 who were categorized by their school or district as having deaf-blindness as a primary disability to 166. The number of students reassigned to the deaf-blindness category and their original designation of primary disability are indicated in table A-5. Because there still are relatively few members of the deaf-blindness disability category, for purposes of multivariate analyses, they are included with the category of multiple disabilities.

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[6] Some special schools and school districts reported secondary disabilities for students. So, for example, a student with visual impairment as his or her primary disability category also could have been reported as having a hearing impairment as a secondary disability.

Table A-5. Definitions of disabilities

Autism. A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child’s educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. The term does not apply if a child’s educational performance is adversely affected primarily because the child has a serious emotional disturbance as defined below.

Deafness. A hearing impairment so severe that the child cannot understand what is being said even with a hearing aid.

Deaf-blindness. A combination of hearing and visual impairments causing such severe communication, developmental, and educational problems that the child cannot be accommodated in either a program specifically for the deaf or a program specifically for the blind.

Emotional disturbance.[1] A condition exhibiting one or more of the following characteristics, displayed over a long period of time and to a marked degree that adversely affects a child’s educational performance:

- An inability to learn that cannot be explained by intellectual, sensory, or health factors
- An inability to build or maintain satisfactory interpersonal relationships with peers or teachers
- Inappropriate types of behavior or feelings under normal circumstances
- A general pervasive mood of unhappiness or depression
- A tendency to develop physical symptoms or fears associated with personal or school problems.

This term includes schizophrenia, but does not include students who are socially maladjusted, unless they have a serious emotional disturbance.

Hearing impairment. An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness as listed above.

Mental retardation. Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a child’s educational performance.

Multiple disabilities. A combination of impairments (such as mental retardation-blindness, or mental retardation-physical disabilities) that causes such severe educational problems that the child cannot be accommodated in a special education program solely for one of the impairments. The term does not include deaf-blindness.

Orthopedic impairment. A severe orthopedic impairment that adversely affects educational performance. The term includes impairments such as amputation, absence of a limb, cerebral palsy, poliomyelitis, and bone tuberculosis.

Other health impairment. Having limited strength, vitality, or alertness due to chronic or acute health problems such as a heart condition, rheumatic fever, asthma, hemophilia, and leukemia, which adversely affect educational performance.[2]

Specific learning disability. A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. This term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. This term does not include children who have learning problems that are primarily the result of visual, hearing, or motor disabilities; mental retardation; or environmental, cultural or economic disadvantage.

Speech or language impairment. A communication disorder such as stuttering, impaired articulation, language impairment, or a voice impairment that adversely affects a child’s educational performance.

See notes at end of table.

Table A-5. Definitions of disabilities—Continued

Traumatic brain injury. An acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem solving; sensory, perceptual and motor abilities; psychosocial behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or brain injuries induced by birth trauma. As with autism, traumatic brain injury (TBI) was added as a separate category of disability in 1990 under P.L. 101-476.

Visual impairment, including blindness. An impairment in vision that, even with correction, adversely affects a child’s educational performance. The term includes both partial sight and blindness.

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[1] P.L. 105-17, the Individuals with Disabilities Education Act Amendments of 1997, changed “serious emotional disturbance” to “emotional disturbance.” The change has no substantive or legal significance. It is intended strictly to eliminate any negative connotation of the term “serious.”

[2] OSEP guidelines indicate that “children with ADD, where ADD is a chronic or acute health problem resulting in limited alertness, may be considered disabled under Part B solely on the basis of this disorder under the ‘other health impaired’ category in situations where special education and related services are needed because of the ADD” (Davila, Williams, and MacDonald 1991).

SOURCE: Definitions taken from Knoblauch and Sorenson (1998).

Appendix A References

Davila, R.R., Williams, M.L., and MacDonald, J. T. (1991). *Clarification of Policy to Address the Needs of Children With Attention-Deficit Disorders Within General and/or Special Education*. Memorandum to Chief State School Officers. Washington, DC: U.S. Department of Education, Office of Special Education and Rehabilitative Services.

Employment Policies Institute. (2002). *Measuring Poverty in America: Science or Politics?* Available at http://www.epionline.org/report_poverty_04_2002.pdf.

Knoblauch, B., and Sorenson, B. (1998). *IDEA’s Definition of Disabilities*. (ERIC Digest #560). Retrieved October 10, 2005, from http://ericec.org/digests/e560.html.

MacMillan, D.L., and Siperstein, G.N. (2002). Learning Disabilities as Operationally Defined by Schools. In R. Bradley, L. Danielson, and D.P. Hallahan (Eds.), *Identification of Learning Disabilities: Research to Practice*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

National Technical Assistance Center. (1999). *National Deaf-Blind Child Count Summary.* Monmouth, OR: Teaching Research Division, Western Oregon University.

Office of Special Education Programs. (2001). *Table AD1. Number of Students Age 14 and Older Exiting Special Education. During the 1999-2000 School Year*. Available at http://www.ideadata.org/tables24th/ar_ad1.htm.

Owen, D.B. (1962). *Handbook of Statistical Tables*. Palo Alto, CA: Addison-Wesley Publishing.

Quality Education Data. (1999). *State School Guides*. Available at http://www.qeddata.com/MarketKno/SchoolGuides/SchoolGuides.aspx.

SRI International. (2000). *National Longitudinal Transition Study-2 (NLTS2) Sampling Plan*. Menlo Park, CA: Author.

Appendix B

Additional Analyses

Appendix B. Additional Analyses

Comparisons of Youth Respondents and Youth for Whom Parents Responded

At several places in this report, we remind readers that the youth who are its focus do not represent all youth with disabilities who received special education services in the NLTS2 age range; they are the subset of youth who responded to the NLTS2 Wave 2 telephone interview or mail questionnaire. Tables B-1 through B-4 compare this subsample—youth respondents—with youth for whom parents/guardians were the respondents with regard to their disability profile and selected demographic and school program characteristics.

The disability profiles of the group of youth who responded for themselves do not differ significantly from those of the youth whose parents were interview respondents. Youth respondents are more likely than youth whose parents were respondents to have high self-care skills (96 percent vs. 90 percent, $p < .01$)[1], but these two groups do not differ significantly in their functional cognitive skills[2] or social skills.[3]

Youth respondents have a pattern of higher functioning across several domains. They are less likely than those for whom parents responded to have trouble communicating (26 percent vs. 43 percent, $p < .001$), understanding speech (30 percent vs. 43 percent, $p < .01$), and using their arms and hands for fine motor activities (4 percent vs. 11 percent, $p < .01$). Youth respondents are more likely not to have functional domains affected by disability (45 percent vs. 36 percent, $p < .01$) and less likely to have as many as three or four domains affected (19 percent vs. 32 percent, $p < .001$). In line with these differences, youth respondents also are significantly less likely to have a disability identified in their first year of life (13 percent vs. 25 percent, $p < .01$), although there is no significant difference in their rate of receiving special education services during their first years in school.

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[1] To assess the independence of youth in caring for their fundamental physical needs, parents of youth with disabilities were asked to rate how well youth can feed and dress themselves without help on a 4-point scale from “not at all well” to “very well.” A summative scale of abilities ranges from 2 (both skills done “not at all well”) to 8 (both skills done “very well”).

[2] Parents were asked to use a 4-point scale ranging from “not at all well” to “very well” to evaluate four of their sons’ or daughters’ skills that often are used in daily activities: reading and understanding common signs, telling time on a clock with hands, counting change, and looking up telephone numbers and using the telephone. These skills are referred to as “functional cognitive skills” because they require the cognitive ability to read, count, and calculate. As such, they suggest much about students’ abilities to perform a variety of more complex cognitive tasks. However, they also require sensory and motor skills—for example, to see signs, manipulate a telephone, and so on. Consequently, a high score indicates high functioning in all of these areas, but a low score can result from a deficit in the cognitive, sensory, and/or motor domains. A summative scale of parents’ ratings of these functional cognitive skills ranges from 4 (all skills done “not at all well”) to 16 (all skills done “very well”).

[3] The social skills of youth with disabilities were assessed by asking parents to respond to nine items drawn from the Social Skills Rating System (SSRS), Parent Form (Gresham and Elliott 1990). Items were selected from the assertion and self-control subscales, skill sets considered by the design team to be most relevant to school success. Individual items were selected because they had high factor loadings on the relevant subscale and/or did not duplicate particular skills (e.g., controls temper with children and controls temper with the parent were not both selected). For each item, parents were asked whether their adolescent children exhibit each characteristic “never,” “sometimes,” or “always” (scoring 0, 1, or 2, respectively). An overall measure of social skills was created by summing the values across the nine items, producing a scale with raw scores that range from 0 to 18.

Table B-1. Primary disability category of youth respondents and those for whom parents responded

Primary disability category	Parent respondents	Youth respondents
	Percent / standard error	
Learning disability	53.8 (2.64)	62.7 (2.73)
Speech/language impairment	4.0 (1.01)	4.0 (1.10)
Mental retardation	17.1 (1.99)	11.6 (1.81)
Emotional disturbance	12.5 (1.75)	11.5 (1.80)
Hearing impairment	2.1 (0.75)	1.2 (0.62)
Visual impairment	0.4 (0.33)	0.5 (0.38)
Orthopedic impairment	1.3 (0.59)	1.1 (0.59)
Other health impairment	4.0 (0.59)	4.6 (1.18)
Autism	1.2 (0.57)	0.7 (0.45)
Traumatic brain injury	0.3 (0.30)	0.3 (0.30)
Multiple disabilities	3.1 (0.92)	1.7 (0.74)
Deaf-blindness	0.3 (0.26)	0.1 (0.21)

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 parent interviews, 2001, Wave 2 parent and youth telephone interview/mail survey, 2003.

Table B-2. Daily living scale scores of youth respondents and those for whom parents responded

Functional skills scale scores	Parent respondents	Youth respondents
	Percent / standard error	
Self-care skills scale score:		
High (8)	**89.5** (1.67)	**95.5**** (1.19)
Medium (5-7)	7.5 (1.44)	4.1 (1.14)
Low (2-4)	2.9 (0.92)	0.4 (0.37)
Functional cognitive skills scale score:		
High (13-16)	53.7 (3.33)	65.0 (3.11)
Medium (8-12)	37.6 (3.23)	33.0 (3.07)
Low (4-7)	8.7 (2.89)	2.0 (0.92)
Social skills scale score:		
High (17-22)	18.2 (2.14)	24.2 (2.49)
Medium (11-16)	61.0 (2.70)	60.3 (2.84)
Low (0-10)	20.8 (2.25)	15.5 (2.10)

***p* < .01.

NOTE: The category “medium” is omitted from the table.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 parent interviews, 2001, Wave 2 parent and youth telephone interview/mail survey, 2003.

Table B-3. Functional characteristics of youth respondents and those for whom parents responded

Functional characteristics	Parent respondents	Youth respondents
	Percent / standard error	
Youth has at least “some trouble”:		
Seeing	18.3 (2.58)	11.1 (2.06)
Hearing	14.8 (2.36)	7.6 (1.74)
Understanding speech	**43.0** (3.00)	**29.6**** (2.99)
Communicating with others	**42.5** (3.29)	**26.3***** (2.87)
Using arms/hands for gross motor activities	9.1 (1.92)	4.5 (1.36)
Using arms/hands for fine motor activities	**11.3** (2.1)	**4.1**** (1.29)
Using legs/feet	10.6 (2.05)	6.0 (1.56)
Number of functional domains affected by disability:		
None	**36.0** (1.35)	**45.4**** (3.26)
1 or 2	27.5 (2.97)	34.2 (3.11)
3 or 4	**32.2** (3.11)	**18.5***** (2.55)
5 or 6	4.3 (1.36)	1.8 (0.88)
Youth’s general health is excellent	37.4 (3.22)	43.0 (3.25)

***p* < .01, ****p* < .001.

NOTE: The six functional domains in the scale of domains affected are vision, hearing, expressive language, receptive language, participation in bidirectional communication, use of arms/hands, and use of legs/feet.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 parent interviews, 2001, Wave 2 parent and youth telephone interview/mail survey, 2003.

Table B-4. Age at identification of and first services for disabilities of youth respondents and those for whom parents responded

Youth’s age	Parent respondents	Youth respondents
	Percent / standard error	
Disability first identified at age:		
Birth-1	**24.7** (2.97)	**12.5**** (2.26)
2-4	17.0 (2.58)	18.0 (2.63)
5-7	35.9 (3.30)	43.0 (3.39)
8-10	16.7 (2.57)	18.7 (2.67)
11 or older	5.8 **(1.61)**	7.8 (1.84)
Special education services in school first received at age:		
5-7	56.5 (3.45)	47.3 (3.40)
8-10	24.4 (2.99)	31.0 (3.15)
11 or older	19.1 (2.74)	21.7 (2.81)

***p* < .01, ****p* < .001.

SOURCES: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 parent interviews, 2001, Wave 2 parent and youth telephone interview/mail survey, 2003.

Differences in youth’s services are apparent. Youth who were not their own respondents are more likely to receive several related and support services, including occupational therapy (20 percent vs. 11 percent, $p < .01$; not included in tables), personal assistant or in-home aide (35 percent vs. 21 percent, $p < .01$), and transportation services (17 percent vs. 8 percent, $p < .01$).

No significant demographic differences or differences in youth’s instructional programs between the two respondent groups are apparent.

Distribution of Demographic Characteristics Across Disability Categories

Findings in this report are presented for youth with disabilities as a group and then are reported separately for youth in each federal special education disability category. When differences are significant, findings also are reported for youth who differ in age, 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, as well as being distributed differently across disability categories. Table B-5 presents demographic characteristics of youth with disabilities overall and within each disability category.[4]

Findings for the full sample of youth included in this report are heavily influenced by information provided by youth with learning disabilities, who constitute 63 percent of the weighted sample. Youth with mental retardation, emotional disturbances, or other health or speech/language impairments are 12 percent, 12 percent, 5 percent, and 4 percent of the weighted sample. The other seven categories together make up less than 6 percent of the weighted sample.

This report represents youth who are in the 16- to 20-year-old age range. Fewer youth are at the older than younger end of the age range; 19 percent are 19- to 20-year-olds and 30 percent are 16-year-olds ($p < .01$). Youth are distributed across the disability categories in a similar pattern within each disability category, with one exception. Youth with speech/language impairments tend to be younger; 44 percent of youth in this category are 16-year-olds, compared with 30 percent of youth overall ($p < .01$).

Whereas about half of youth in the general population are male (51 percent),[5] almost two-thirds of youth with disabilities (63 percent) are male ($p < .001$). Youth with different disability classifications differ in their gender balance when compared with youth with disabilities overall. Almost 9 in 10 youth with autism (89 percent) are male (vs. 63 percent, $p < .001$). In contrast, fewer than half of those with hearing impairments are male (48 percent vs. 63 percent, $p < .01$).

Youth with disabilities differ from those in the general population in their racial/ethnic backgrounds. They are disproportionately likely to be African American, relative to the general population; African Americans comprise 15 percent of youth in the general population[6] but 22 percent of youth with disabilities ($p < .01$). Youth with mental retardation are more likely to be African American than are youth with disabilities as a group (38 percent vs. 22 percent, $p < .01$). Those with other health impairments are less likely to be African American (11 percent, $p < .01$) and, conversely, more likely to be White, relative to youth with disabilities overall (77 percent vs. 62 percent, $p < .01$).

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[4] See Wagner et al. (2003) for relationships of demographic factors and disability categories for the full NLTS2 sample.

[5] General population data computed for 16- through 20-year-olds, using United States Census Bureau 2000 data.

[6] See footnote 5.

Table B-5. Demographic characteristics, by disability category

Characteristics	All disabilities	Learning disability	Speech/language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
	Percent / standard error												
Overall	100.0	62.7	4.0	11.6	11.5	1.2	0.5	1.1	4.6	0.7	0.3	1.7	0.1
		(2.73)	(1.10)	(1.81)	(1.80)	(0.62)	(0.38)	(0.59)	(1.18)	(0.45)	(0.30)	(0.74)	(0.21)
Age													
16	30.2	29.2	43.5	30.9	30.2	31.0	25.0	28.2	33.8	29.6	20.2	22.6	36.8
	(2.59)	(3.87)	(4.38)	(5.35)	(4.23)	(5.63)	(5.45)	(5.20)	(4.43)	(6.57)	(7.21)	(6.17)	(8.71)
17	24.7	25.8	25.5	21.4	24.6	19.2	27.4	25.4	16.3	30.6	26.3	26.8	24.5
	(2.43)	(3.72)	(3.85)	(4.75)	(3.96)	(4.80)	(5.62)	(5.03)	(3.46)	(6.64)	(7.91)	(6.53)	(7.76)
18	26.1	27.2	19.1	23.0	22.0	28.0	22.7	28.3	32.3	19.1	39.2	32.9	21.2
	(2.47)	(3.78)	(3.47)	(4.87)	(3.81)	(5.47)	(5.27)	(5.20)	(4.38)	(5.66)	(8.77)	(6.93)	(7.38)
19-20	19.1	17.8	11.9	24.7	23.2	21.8	24.8	18.2	17.7	20.7	14.4	17.8	17.5
	(2.22)	(3.25)	(2.86)	(5.00)	(3.89)	(5.03)	(5.44)	(4.46)	(3.57)	(5.84)	(6.31)	(5.63)	(6.85)
Gender													
Male	63.4	63.6	56.1	52.7	74.8	47.7	49.2	50.7	72.1	89.4	67.6	58.6	64.1
	(2.72)	(4.09)	(4.38)	(5.78)	(4.00)	(6.08)	(6.29)	(5.78)	(4.20)	(4.43)	(8.41)	(7.26)	(8.66)
Female	36.6	36.5	43.9	47.3	25.2	52.3	50.9	49.3	27.9	10.6	32.4	41.4	35.9
	(2.72)	(4.09)	(4.38)	(5.78)	(4.00)	(6.08)	(6.29)	(5.78)	(4.20)	(4.43)	(8.41)	(7.26)	(8.66)
Ethnicity													
White	61.5	61.5	67.7	51.4	61.6	60.1	62.6	68.3	77.1	67.0	69.2	67.8	68.7
	(2.74)	(4.14)	(4.13)	(5.79)	(4.48)	(5.96)	(6.09)	(5.38)	(3.94)	(6.77)	(8.30)	(6.89)	(8.37)
African American	21.6	19.0	17.1	37.7	27.0	17.0	18.3	14.9	11.1	20.4	16.8	17.2	8.3
	(2.32)	(3.34)	(3.33)	(5.61)	(4.09)	(4.57)	(4.87)	(4.11)	(2.95)	(5.80)	(6.72)	(5.56)	(4.98)
Hispanic	13.9	16.1	12.0	9.5	9.2	17.7	14.4	14.5	8.8	8.8	11.4	11.6	23.0
	(1.95)	(3.12)	(2.87)	(3.39)	(2.67)	(4.65)	(4.42)	(4.08)	(2.65)	(4.08)	(5.70)	(4.72)	(7.60)
Household income													
$25,000 or less	36.2	36.1	26.7	49.3	38.9	20.3	31.1	28.6	19.5	29.0	25.8	30.0	30.3
	(2.86)	(4.28)	(4.06)	(6.28)	(4.64)	(5.24)	(6.13)	(5.40)	(3.80)	(7.04)	(8.12)	(6.93)	(8.77)
$25,001 - $50,000	28.4	27.8	30.2	26.9	30.0	31.0	28.1	26.5	34.9	26.4	37.8	23.4	27.9
	(2.68)	(3.99)	(4.21)	(5.57)	(4.36)	(6.03)	(5.96)	(5.28)	(4.58)	(6.83)	(9.00)	(6.40)	(8.55)
More than $50,000	35.5	36.1	43.1	23.8	31.1	48.7	40.8	45.0	45.6	44.6	36.5	46.6	41.8
	(2.85)	(4.28)	(4.54)	(5.35)	(4.40)	(6.52)	(6.51)	(5.95)	(4.78)	(7.71)	(8.94)	(7.54)	(9.41)

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 2 youth telephone interview/mail survey, 2003.

Youth with disabilities are more likely than those in the general population to live in households with lower income levels. Almost two in five youth with disabilities (36 percent) included in this report live in households with incomes of $25,000 or below, in comparison, 29 percent[7] of their peers in the general population live in low-income-level households ($p < .01$). There are few significant differences by disability category in comparison with household incomes of youth with disabilities overall, with the exception that youth with hearing (20 percent) and other health impairments (20 percent) are less likely to live in households with incomes of less than $25,000 than are youth with disabilities as a group ($p < .01$ and $p < .001$, respectively).

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[7] See footnote 5.

Appendix B References

Gresham, F.M., and Elliott, S.N. (1990). *Social Skills Rating System*. Circle Pines, MN: American Guidance Services, Inc.

Wagner, M., Marder, C., Levine, P., Cameto, P., Cadwallader, T.W., and Blackorby, J. (2003). *The Individual and Household Characteristics of Youth With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.