

4. POSTSECONDARY EDUCATION PARTICIPATION OF YOUTH WITH DISABILITIES

By Lynn Newman

Ensuring that students with disabilities have “access to and full participation in postsecondary education” has been identified as one of the key challenges in the future of secondary education and transition for such students (National Center on Secondary Education and Transition, 2003, p. 1). As the American economy becomes increasingly knowledge based, attaining a postsecondary education is more critical than ever (Carnevale & Desrochers, 2003). For example, only 20% of workers needed at least some college for their jobs in 1959; today, that number has increased to 56% (Carnevale & Fry, 2000).

Policies related to transition planning have been put in place to support students with disabilities in achieving postsecondary education and other post-high-school goals. Transition planning became a focus of federal policy for students with disabilities in the mid-1980s, when it was conceptualized as a “bridge” from school to young adulthood (Will, 1984). Language calling for transition planning was a new and important part of the Education of the Handicapped Act Amendments of 1990, and the subsequent 1997 amendments (IDEA '97) expanded those transition provisions. These provisions placed an emphasis on the student’s voice in selecting transition goals, specifying that a “student’s preferences and interests are considered” during transition planning [IDEA '97 Final Regulations, Section 300.344(b)(2)]. Indeed, NLTS2 has found that a postsecondary education is a primary post-high-school goal for more than four out of five secondary school students who have transition plans (Cameto et al., 2004). Perhaps reflecting this goal, youth with disabilities increasingly are taking rigorous academic courses in high school, including college-preparatory courses, such as a foreign language and science (Wagner, Newman, & Cameto, 2004).

However, even when their high school programs prepare them for postsecondary education, students with disabilities can encounter a variety of challenges in the transition from secondary to postsecondary school. Postsecondary schools are guided by a legal framework whose rights and responsibilities are different from those of secondary schools. When students leave high school, their education is no longer covered under the IDEA umbrella, but instead is under the auspices of two civil rights laws—Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA) (Stodden, Jones, & Chang, 2002; Wolanin & Steele, 2004). Postsecondary students with disabilities are not entitled to a free appropriate public education, as in high school, nor is there a mandatory individualized education program (IEP) process to identify and provide for the supports they may need to succeed in school (Office for Civil Rights, 2004). In high school, “the burden is on the school to find and serve the student...in higher education the burden is on the student...to find the appropriate services and navigate through [their] education” (Wolanin & Steele, 2004, p. 27).

This understanding of the challenges posed by the postsecondary school environment for youth with disabilities raises the following questions:

- To what extent are youth with disabilities traversing the divide between secondary and postsecondary education and enrolling in postsecondary schools?

- How does their level of enrollment compare with that of their peers in the general population?
- What individual and family characteristics distinguish those who go on to postsecondary education from those who do not?
- To what extent do those who enroll receive supports and accommodations as part of their postsecondary education?

This chapter examines the postsecondary education experiences of youth with disabilities who have been out of secondary school up to 2 years. It focuses on participation in three types of institutions: postsecondary vocational, business, or technical schools; 2-year or community colleges; and 4-year colleges. As context for understanding the postsecondary education participation of youth with disabilities, the chapter begins by providing two perspectives: parents' expectations while youth were still in high school of their attending postsecondary school, and youth's transition goals for their early postschool years. The chapter then discusses youth's experiences with programs designed to help those who have dropped out of high school earn a high school diploma.¹ It continues with an examination of postsecondary education enrollment rates² and a presentation of multivariate analyses highlighting the relationships between individual and family characteristics³ and postsecondary school enrollment. It concludes with findings regarding the experiences of postsecondary students with disabilities, including receipt of accommodations and modifications.

Parents' and Youth's Aspirations for Youth's Postsecondary Education

When NLTS2 out-of-school youth still were in secondary school, information was collected in telephone interviews about parents' expectations for the future postsecondary education of their adolescent children with disabilities. Youth's transition goals for their early postschool years were reported in a survey of school staff.

Parents' Expectations for Youth's Postsecondary Education

When most youth included in this report were still in high school, parents were asked to report how likely they thought it was that their adolescent children with disabilities would reach several postsecondary education milestones.⁴ Being aware of parents' postsecondary education expectations is important because they can help shape students' attitudes and behaviors toward their schooling as well as parents' own actions in support of students' learning. High educational expectations can encourage the educational attainments of youth (Catsambis, 2002; Patrikakou, 2004). In fact, parents' expectations for youth with disabilities have been shown to be

¹ Twenty-eight percent of the out-of-school youth with disabilities represented in this report left high school without a diploma or certificate of completion.

² Postsecondary education enrollment rates of youth with disabilities represented in NLTS2 are not compared with those reported for the original NLTS because age differences in the two samples make straightforward comparisons misleading. A subsequent report will present findings of analyses that include the adjustments necessary for accurate comparisons between NLTS and NLTS2.

³ Multivariate analyses do not include factors related to youth's school programs because complete data on those programs are not yet available.

⁴ Possible responses were "definitely will," "probably will," "probably won't," and "definitely won't."

**Exhibit 4-1
PARENTS' EXPECTATIONS FOR THE
POSTSECONDARY EDUCATION OF
YOUTH WITH DISABILITIES**

	Percentage	Standard Error
Youth expected to:		
Attend school after high school		
Definitely will	25.8	3.5
Probably will	34.8	3.8
Probably or definitely won't	39.4	3.9
Complete a technical or trade school program		
Definitely will	13.9	2.8
Probably will	30.0	3.7
Probably or definitely won't	56.1	4.0
Graduate from a 2-year college		
Definitely will	10.4	2.4
Probably will	35.1	3.8
Probably or definitely won't	54.5	4.0
Graduate from a 4-year college		
Definitely will	7.5	2.1
Probably will	25.3	3.5
Probably or definitely won't	67.1	3.8

Source: NLTS2 Wave 1 parent interviews.

powerfully related to the youth's accomplishments in multiple domains, including postsecondary education (Wagner et al., 1993).

When they were in high school, three out of five youth with disabilities (61%) were expected by their parents to further their educations after high school, with 26% expected "definitely" and 35% "probably" to do so (Exhibit 4-1).⁵ Parents were less confident that youth would complete postsecondary programs. About 44% of youth were expected "definitely" or "probably" to complete a technical or trade school program. Expectations regarding graduation from a 2-year college were similar. Fewer youth were expected to become 4-year-college graduates; about one-third were expected "definitely" or "probably" to graduate from a 4-year college.

Youth with disabilities were much less likely to be expected to attend school after high school than were their peers in

the general population. Although parents of 61% of youth with disabilities had some expectation that youth would continue on to postsecondary education, almost 92% of their peers in the general population were expected to continue education after high school ($p < .001$).⁶ Parents of youth with disabilities also were markedly less positive than other parents about youth's graduating from a 4-year college; 33% of those with disabilities were expected "definitely" or "probably" to complete a 4-year college program, whereas 88% of their peers in the general population were expected to receive a 4-year college degree ($p < .001$).

Youth's Goals for Postsecondary Education

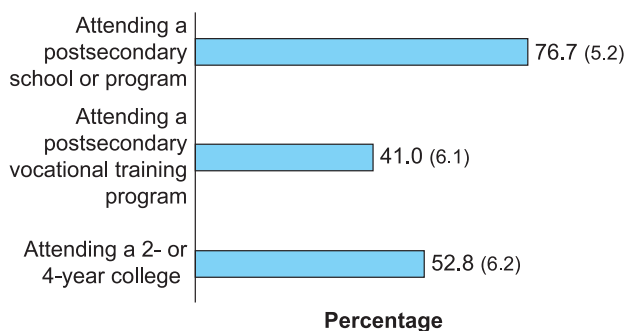
There is a growing consensus that self-determination is important to positive outcomes for youth with disabilities (Karvonen, Test, Wood, Browder, & Algozzine, 2004). When students engage in self-determination behaviors, including decision-making, self-advocacy, and goal setting, they "have greater ability to take control of their lives and assume the role of successful adults" (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 2). The postschool goals set by students, along with their families and the professionals who support them, are at the heart of

⁵ Parents' expectations reported in this section are expectations for youth with disabilities who have left secondary school in the past 2 years. Please see Newman (2005) for parents' expectations for all youth with disabilities.

⁶ Figures for the general population were calculated from the 1999 National Household Education Survey. Data are for 13- to 17-year-olds.

**Exhibit 4-2
POSTSECONDARY EDUCATION GOALS OF
YOUTH WITH DISABILITIES**

Primary goals for the period following high school include*:



Source: NLTS2 Wave 1 student's school program questionnaire.

* Respondent could indicate multiple goals; 17% specified goals related both to vocational training and 2- or 4-year college.

Standard errors are in parentheses.

effective transition planning and are a key result, as well as a demonstration, of self-determination skills. As part of the transition planning process, high school students with disabilities, in conjunction with their parents, teachers, and others, were asked to envision their futures and articulate their aspirations for the early period following high school. School staff most knowledgeable about students' school programs described these goals. More than three-quarters (77%) of students with disabilities were reported by school staff to have postsecondary education as a primary postschool goal (Exhibit 4-2).⁷ Two out of five had a goal to attend a postsecondary vocational training program, and more than half (53%) had goals to attend a 2- or 4-year college.

Relationships between Parents' Expectations and Youth's Transition Plan Goals

A comparison of parents' expectations and youth's postsecondary education goals demonstrates that, overall, parents tend to hold somewhat lower expectations for their adolescent children's future postsecondary enrollment than the primary postschool goals indicated in youth's transition plans. Three out of five youth with disabilities (61%) were expected by their parents "definitely" or "probably" to continue on to postsecondary school, compared with more than three-quarters (77%, $p < .05$) of youth who had a goal of attending postsecondary school. A shared view of postsecondary education between parents and youth's transition goals is most common for those whose parents "definitely" expected them to attend postsecondary school. Almost 95% of high school students with disabilities who "definitely" were expected to continue their education at a postsecondary level also had postsecondary school goals. In contrast, 52% of those whose parents thought they "probably" or "definitely" would not attend postsecondary school indicated that postsecondary education was a primary goal for their early post-high-school years ($p < .001$).

⁷ Postsecondary education goals reported in this section are for youth with disabilities who have been out of secondary school up to 2 years. Please see Cameto et al. (2004) for a description of transition goals for all youth with disabilities.

**Exhibit 4-3
PARENTS' EXPECTATIONS AND YOUTH'S
POSTSECONDARY EDUCATION TRANSITION PLAN
GOALS, BY YOUTH'S SCHOOL-LEAVING STATUS**

	School Completers	Dropouts
Percentage expected to:		
Attend school after high school		
Definitely will	32.4 (4.5)	6.9 (3.6)
Probably or definitely won't	29.0 (4.4)	66.4 (6.8)
Complete a technical or trade school		
Definitely will	16.6 (3.7)	5.5 (3.3)
Probably or definitely won't	51.3 (4.9)	68.7 (6.7)
Graduate from a 2-year college		
Definitely will	11.9 (3.1)	4.9 (3.2)
Probably or definitely won't	47.0 (4.8)	74.6 (6.4)
Graduate from a 4-year college		
Definitely will	9.3 (2.9)	2.7 (2.4)
Probably or definitely won't	62.3 (4.8)	80.6 (5.9)
Percentage with goal to:		
Attend a postsecondary school or program	79.7 (5.5)	59.8 (15.0)
Attend a postsecondary vocational training program	40.3 (6.7)	39.6 (14.9)
Attend a 2- or 4-year college	56.9 (6.8)	37.7 (14.8)

Sources: NLTS2 Wave 1 parent interviews and student's school program survey.

The category "probably will" is omitted from the exhibit.
Standard errors are in parentheses.

***School-Leaving Status
Differences in Parents'
Expectations and Youth's
Transition Plan Goals for
Postsecondary Education***

Parents' expectations are related to the way in which youth left high school (Exhibit 4-3). Parents of those who eventually dropped out of high school appeared to be aware that their children were struggling with school. When parents were asked about expectations for their children's future educational attainment, parents of those who 2 years later had left school by graduating or receiving a certificate of completion were more than four and one-half times as likely to expect that their adolescent children would definitely continue on to postsecondary school as were parents of those who left high school without finishing (32% vs. 7%, $p < .001$). Parents of youth who eventually dropped out of high school also were consistently less optimistic about their completing postsecondary school programs. More eventual dropouts than graduates were not expected to complete a technical or trade school program (69% vs. 51%, $p < .05$), a 2-year or community

college (75% vs. 47%, $p < .001$), or a 4-year college (81% vs. 62%, $p < .05$). Youth's transition goals do not appear to be related to eventual school-leaving status, although this finding might be an artifact of fewer responses for youth who dropped out, resulting in large standard errors.

Disability Differences in Parents' Expectations and Youth's Goals for Postsecondary Education

Given the marked differences in the functional abilities of youth in different disability categories, reported in Chapter 2, it is not surprising that both youth in different disability categories and their parents had different aspirations for postsecondary education. Although some youth in all disability categories were expected to attend postsecondary school, students with orthopedic, speech, hearing, or visual impairments were among those most likely to be

expected to continue their education (Exhibit 4-4). Between about one-half and two-thirds of youth with orthopedic (49%), speech (57%), visual (64%), or hearing impairments (65%) were expected “definitely” to pursue postsecondary education. Youth with these impairments also were among those most frequently expected to graduate from a 2-year (26% to 32% “definitely will”) or a 4-year college (26% to 36% “definitely will”). In contrast, only one-third of youth with other health impairments and 26% to 28% of those with learning disabilities, autism, or deaf-blindness were expected “definitely” to go on to postsecondary education ($p < .001$ comparing youth with learning disabilities and hearing or visual impairments). Youth with

Exhibit 4-4
PARENTS’ EXPECTATIONS AND YOUTH’S POSTSECONDARY EDUCATION
TRANSITION PLAN GOALS, BY DISABILITY CATEGORY

	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 expected to:												
Get any postsecondary education												
Definitely will	27.1 (5.1)	57.0 (7.8)	8.3 (4.4)	17.7 (4.2)	65.4 (6.7)	64.0 (9.3)	48.8 (8.2)	32.9 (5.3)	28.5 (8.8)	19.6 (8.4)	12.2 (6.4)	26.2 (13.8)
Definitely or probably won't	37.1 (5.5)	18.1 (6.1)	66.9 (7.5)	43.3 (5.5)	12.3 (4.6)	5.7 (4.5)	20.8 (6.7)	33.0 (5.3)	35.8 (9.3)	27.9 (9.4)	58.3 (9.7)	42.3 (15.5)
Complete technical or trade school												
Definitely will	14.0 (4.0)	22.0 (6.6)	5.0 (3.5)	16.6 (4.2)	34.8 (6.8)	12.6 (6.6)	16.5 (6.2)	10.2 (3.5)	17.9 (7.5)	22.0 (8.9)	8.2 (5.5)	7.5 (8.8)
Definitely or probably won't	54.6 (5.7)	52.9 (8.0)	71.6 (7.3)	55.2 (5.7)	46.3 (7.1)	60.0 (9.7)	51.0 (8.3)	57.9 (5.7)	47.3 (9.8)	35.8 (10.2)	66.7 (9.4)	63.7 (16.1)
Complete 2-year college												
Definitely will	8.9 (3.3)	26.2 (7.0)	7.0 (4.1)	12.7 (3.8)	32.2 (6.6)	28.9 (8.8)	31.7 (7.7)	12.4 (3.8)	16.7 (7.3)	12.6 (7.2)	6.5 (4.9)	7.0 (8.3)
Definitely or probably won't	52.7 (5.8)	44.2 (7.9)	77.1 (6.8)	54.1 (5.6)	36.7 (6.9)	43.8 (9.6)	35.8 (7.9)	52.3 (5.7)	44.5 (9.7)	51.9 (10.8)	66.4 (9.4)	52.2 (16.2)
Complete 4-year college												
Definitely will	7.1 (3.0)	25.5 (7.1)	.8 (1.4)	5.3 (2.6)	26.8 (6.3)	35.6 (9.5)	28.7 (7.6)	12.8 (3.9)	9.3 (5.9)	5.8 (5.1)	4.6 (4.2)	22.6 (14.0)
Definitely or probably won't	65.2 (5.6)	43.6 (8.1)	82.8 (6.1)	75.5 (4.9)	40.7 (7.0)	18.0 (7.6)	43.3 (8.3)	63.5 (5.6)	72.5 (9.0)	69.8 (10.1)	88.3 (6.4)	69.9 (15.4)
Percentage with goal to:												
Attend a postsecondary school or program	82.4 (6.3)		26.9 (10.0)	79.7 (9.2)	87.6 (6.6)	99.6 (1.6)	85.9 (9.1)	78.1 (6.8)	66.6 (12.2)			
Attend a postsecondary vocational training program	44.6 (8.2)		22.7 (9.5)	43.0 (11.3)	27.4 (8.9)	10.4 (7.7)	16.9 (9.7)	36.6 (7.9)	15.2 (9.3)			
Attend a 2- or 4-year college	57.3 (8.2)		6.5 (5.6)	50.0 (11.4)	74.6 (8.7)	94.9 (5.5)	73.0 (11.5)	60.9 (8.0)	53.9 (12.9)			

Sources: NLTS2 Wave 1 parent interviews and student’s school program survey.

Cells with 35 or fewer respondents are left blank.

The category “probably will” is omitted from the exhibit.

Standard errors are in parentheses.

mental retardation or multiple disabilities were among those least likely to be expected to attend postsecondary school; 67% and 58% of youth in these categories were not expected to pursue education after high school, and even higher percentages were thought unlikely to graduate from technical, 2-year, or 4-year postsecondary schools.

Mirroring their parents' higher expectations, youth with hearing, visual, or orthopedic impairments were more likely to have postsecondary education goals when they were in high school. For example, almost all of those with visual impairments had postsecondary education goals. Also similar to parents' expectations, many fewer youth with mental retardation (27%, $p < .001$) planned to attend postsecondary school.

Disability category differences also are apparent across types of postsecondary education programs. Students who were among the most likely to have goals for participation in one type of postsecondary institution frequently were among the least likely to have goals to enroll elsewhere. For example, students with visual or orthopedic impairments were among the most likely to have goals related to attending a 2-year or 4-year college (95% and 73%, respectively) but rarely planned to enroll in a postsecondary vocational program (10% and 17%, respectively).

Participation in High School Diploma/Certificate Programs

This section shifts the focus from expectations and goals for the period after high school to youth's actual post-high-school experiences. For the 28% of out-of-school youth with disabilities who left high school without finishing,⁸ post-high-school education does not necessarily mean postsecondary-level education. Dropping out of secondary school is not an irrevocable decision; young people may still obtain a high school diploma by reentering a regular or alternative secondary school program or by taking an examination to obtain a General Educational Development (GED) credential. Whereas reviews of the research on GED holders have consistently found that they are less successful in the labor market than regular high school graduates, GED holders have been found to earn higher wages than uncredentialed dropouts (Boesel, Alsalam, & Smith, 1998; Tyler, 2003).

Since leaving high school, 29% of youth with disabilities who had dropped out of high school have taken one or more classes or tests to earn a high school diploma. Within 2 years of leaving secondary school, almost one-third (31%) of those participating in GED and other high school equivalency programs have received a high school diploma or certificate; those with a GED diploma or certificate constitute about 9% of out-of-school youth with disabilities who had dropped out of high school.⁹

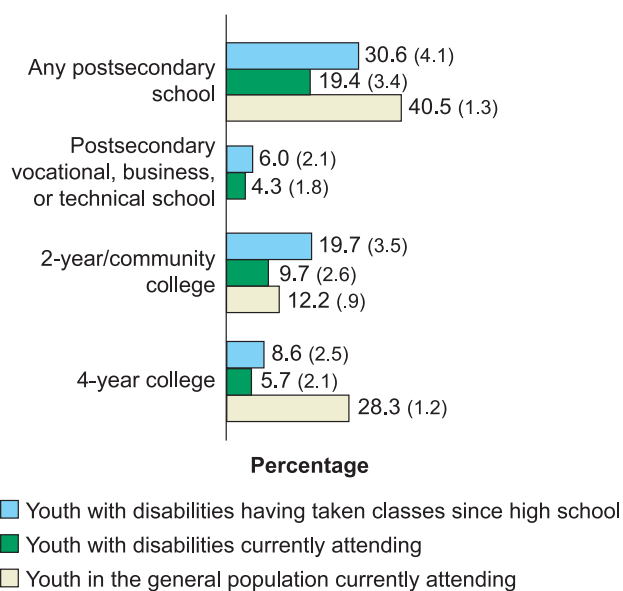
Postsecondary School Enrollment

Within 2 years of leaving high school, fewer youth with disabilities have continued on to postsecondary education than were expected to do so. Approximately one-third (31%) have taken postsecondary education classes since leaving high school (Exhibit 4-5), considerably fewer than the 77% who had postsecondary education goals when they were in high school and

⁸ This includes 27% of youth who were reported to have dropped out and 1% who reportedly left school without finishing for other reasons (e.g., permanent expulsion). For convenience, the entire group will be referred to here as dropouts.

⁹ There are too few dropouts in most disability categories to report findings separately by disability category.

**Exhibit 4-5
POSTSECONDARY SCHOOL ENROLLMENT
OF YOUTH WITH DISABILITIES AND YOUTH IN
THE GENERAL POPULATION**



Sources: NLTS2 Wave 2 parent/youth interviews and, for general population, NLSY 2000 data for 15- through 19-year-olds.

Standard errors are in parentheses.

the 61% whose parents expected them “definitely” or “probably” to further their education after high school ($p < .001$ for both comparisons). However, this is not to say that these expectations and goals will not be met in later years.

Although many who had postsecondary school aspirations while in high school have not yet attained those goals, youth who held postsecondary goals are more likely than others to be enrolled early on in a postsecondary school. Only 5% of those who did not envision attending postsecondary school have enrolled in 2-year colleges, compared with 36% ($p < .01$) of those with a goal of attending a 2- or 4-year college. Fewer than 1% of those who did not have postsecondary education goals have enrolled in 4-year colleges, compared with 23% ($p < .01$) of those who had this goal. The one exception to the relationship between goals and attendance relates to participating in postsecondary vocational

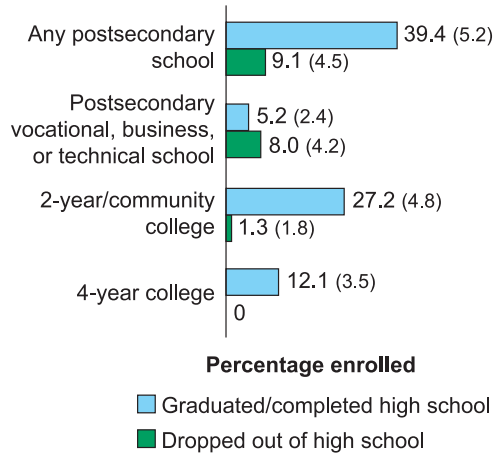
training programs. There is no difference in enrollment rates in these types of programs between those who held this type of goal and those who did not.

Approximately one out of five out-of-secondary-school youth with disabilities (19%) currently are attending postsecondary school, a rate that is less than half that of their peers in the general population (40%, $p < .001$). More youth with disabilities have been enrolled in 2-year or community colleges since leaving high school than in other types of postsecondary schools. One out of five have taken classes from a 2-year or community college since leaving high school, compared with 6% who have participated in postsecondary vocational, business, or technical schools ($p < .001$) and 9% who have attended 4-year colleges ($p < .01$). The rate of current enrollment of youth with disabilities in 2-year/ community colleges is not significantly different from that of their peers in the general population (10% vs. 12%). This stands in sharp contrast to differences in enrollment rates at 4-year colleges. Similar-age youth in the general population are more than four and one-half times as likely as youth with disabilities to be currently taking courses at a 4-year college (28% vs. 6%, $p < .001$).

School-Leaving Status Differences in Postsecondary School Enrollment

Mirroring parents’ expectations for postsecondary enrollment, secondary school graduates are markedly more likely to have enrolled in postsecondary school than are those who left high school by dropping out (Exhibit 4-6). High school completers are more than four times as likely as dropouts to continue on to postsecondary education, with 39% of graduates having attended

**Exhibit 4-6
POSTSECONDARY SCHOOL ENROLLMENT
SINCE LEAVING HIGH SCHOOL OF YOUTH
WITH DISABILITIES, BY SECONDARY-
SCHOOL-LEAVING STATUS**



Source: NLTS2 Wave 2 parent/youth interviews.
Standard errors are in parentheses.

postsecondary school since leaving high school, compared with 9% of those who dropped out ($p < .001$). Rates of current enrollment mirror this sizable discrepancy, with 25% of high school graduates being currently enrolled in postsecondary classes, compared with 5% of dropouts ($p < .001$; not presented in exhibit).

Differences between high school completers and dropouts also are apparent for 2- and 4-year college enrollment. Graduates are clearly more likely than dropouts to have been enrolled at both types of schools since leaving high school (27% vs. 1%, $p < .001$; 12% vs. 0%, $p < .001$). The only exception is enrollment in postsecondary vocational, business, or technical schools, where dropouts are as likely as graduates to have taken classes.

Disability Differences in Postsecondary School Enrollment

Enrollment in postsecondary programs varies widely by disability category (Exhibit 4-7). Postsecondary attendance since high school ranges from 15% and 16% for those with mental retardation or multiple disabilities to 67% and 69% for those with hearing or visual impairments ($p < .001$). Variations in enrollment mirror the disability category differences described for youth’s goals and parents’ expectations for postsecondary education. Youth in disability categories that were the most likely to be expected “definitely” to pursue postsecondary education or to have a post-high-school goal of attending these types of schools—those with hearing, visual, speech, or orthopedic impairments—are consistently more likely to be attending postsecondary programs than youth in other categories. Youth with autism also are more likely to attend postsecondary school (46%) than are those in several other disability categories (e.g., 21% of youth with emotional disturbances, $p < .05$), although they are not among those most likely to be expected to attend. Youth with mental retardation are among those least likely to attend postsecondary school, as well among those least likely to be expected to do so.

Enrollment across disability categories varies more for some types of postsecondary school than others. Differences across categories are largest for enrollment in 4-year institutions. Youth with hearing or visual impairments are by far the most likely to attend these types of schools, with 37% and 42% attending, followed by those with speech and orthopedic impairments (21% and 18%, respectively). Few youth with autism (1%), multiple disabilities (1%), or emotional disturbances (4%), and no youth with mental retardation have taken classes at a 4-year college or university.

The variations noted for enrollment in 2-year colleges parallel those for 4-year colleges, although the differences between disability categories are not as marked. Youth with visual (42%), hearing (37%), or speech (28%) impairments still are among the most likely to have

Exhibit 4-7
POSTSECONDARY SCHOOL ENROLLMENT, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Autism	Traumatic Brain Injury	Multiple Disabilities
Percentage who have enrolled since leaving high school in:											
Any postsecondary school	32.7 (5.9)	46.6 (8.6)	15.4 (6.6)	20.8 (4.7)	67.1 (7.7)	69.1 (9.2)	39.5 (8.6)	36.7 (5.8)	46.1 (11.5)	24.3 (10.7)	15.6 (8.1)
Postsecondary vocational, business, or technical school	5.0 (2.8)	1.4 (2.0)	11.0 (5.7)	7.4 (3.1)	13.3 (5.9)	8.0 (5.4)	11.6 (5.7)	6.3 (3.0)	20.8 (9.4)	5.3 (5.6)	7.1 (5.8)
2-year/community college	21.5 (5.2)	28.3 (7.8)	5.1 (4.0)	12.5 (3.9)	36.9 (8.3)	41.6 (9.9)	19.9 (7.2)	30.6 (5.6)	34.6 (11.3)	14.3 (8.9)	10.2 (5.8)
4-year college	9.7 (3.8)	20.8 (7.0)	.0	4.0 (2.3)	36.7 (8.3)	41.5 (9.9)	17.7 (6.7)	5.9 (2.9)	.9 (2.2)	6.5 (6.1)	1.0 (2.3)

Source: NLTS2 Wave 2 parent/youth interviews.

Note: Too few youth with deaf-blindness are attending postsecondary schools to report findings for them separately.

Standard errors are in parentheses.

attended, but many more youth in other categories have attended 2-year/community colleges as well. Rather than being among the least likely to have attended, as they are at 4-year colleges, youth with autism (35%) or other health impairments (31%) are among the most likely to have attended a 2-year school.

The variation across disability categories is somewhat different when examining attendance at a postsecondary vocational, business, or technical school. Youth with autism (21%), hearing impairments (13%), orthopedic impairments (12%), or mental retardation (11%) are among those most likely to have been enrolled in these types of schools.

Individual and Household Factors Related to Postsecondary School Enrollment

This chapter has described the postsecondary school enrollment of youth with disabilities as a group and separately among high school completers and dropouts and youth in each disability category. But such analyses do not provide information about the relationships between other factors and postsecondary enrollment or about variations by disability category when other factors are held constant. For example, there are more males among youth with emotional disturbances than among youth with visual impairments, so the extent to which the differences presented in Exhibit 4-7 are associated with differences in gender, not disability, is unclear.

To explore the independent associations between postsecondary school attendance and disability and other individual and household characteristics, two multivariate models of postsecondary school attendance were estimated. Dependent variables are:

- Enrollment in a 2- or 4-year college since leaving high school.
- Enrollment in a postsecondary vocational, business, or technical school since leaving high school.

Results from these analyses illuminate the association of each individual and household factor with the outcomes, controlling for all other factors in the analyses.¹⁰

Consistent with the bivariate analyses presented earlier, characteristics associated significantly with enrollment in a 2- or 4-year college differ from those associated with postsecondary vocational, business, or technical school enrollment (Exhibit 4-8). It is important to note that the factors related to enrollment in a 2- or 4-year college explain a statically significant portion of the variation in enrollment in that type of school (PI=.38¹¹), whereas the same factors, and most others explored here, are not significant in explaining the variation in postsecondary vocational, business, or technical school enrollment (PI=.05), resulting in an inability to identify the factors related to enrollment in postsecondary vocational schools.

Disability and Functioning

When other factors in the analysis are held constant, relationships between disability and postsecondary enrollment are weaker for the most part than in bivariate analyses. Nevertheless, there still are important relationships. Consistent with the bivariate analyses presented earlier, multivariate analyses show that youth with visual impairments are the most likely to attend 2- or 4-year colleges. Holding constant other factors, they are 18 percentage points more likely than youth with learning disabilities to have enrolled in these types of postsecondary schools since leaving high school ($p<.05$). Independent of their primary disability category, youth with ADD/ADHD are more likely than youth without it to be enrolled in postsecondary vocational, business, or technical schools (6 percentage points, $p<.01$). The number of functional domains affected by disability¹² is unrelated to postsecondary enrollment, independent of other factors in the analyses.

As would be expected, youth with higher functional cognitive skills are more likely than those with lower abilities to be enrolled in 2- or 4-year colleges (13 percentage points, $p<.01$). However, multivariate analyses show no difference between the two groups in their probability of being enrolled in a vocational, business, or technical school. Neither do variations in self-care or social skills relate to postsecondary enrollment, independent of other factors.

Demographic Characteristics

Even when holding constant other factors, such as secondary-school-leaving status and length of time out of high school, age is related to enrollment in 2- or 4-year colleges. Not surprisingly, older youth are more likely than younger peers to have attended these types of schools; for example, 19-year-olds are 12 percentage points more likely than 17-year-olds to have attended a 2- or 4-year school, independent of other factors ($p<.05$). Males with disabilities are less likely than females to have attended 2- or 4-year colleges (6 percentage points, $p<.01$).

¹⁰ See Appendix A for definitions of the variables included in the analyses.

¹¹ Because logistic regression analyses do not produce the typical measure of explained variation (r^2), an alternative statistic was calculated for the postsecondary enrollment analyses, which indicates the “predictive improvement,” or PI, that can be obtained by adding an independent variable to a logistic regression. Possible PI values range from 0 to 1 as do conventional r^2 statistics. See Appendix A for a more complete description of PI.

¹² The number of functional domains affected by disability indicates the breadth of potential impact of disability on the youth. Parents were asked to report whether youth experience limitations in health; vision; use of arms, hands, legs, and feet; speech production; understanding of speech; and participation in bidirectional communication.

Exhibit 4-8
DIFFERENCES IN POSTSECONDARY SCHOOL ENROLLMENT ASSOCIATED WITH INDIVIDUAL AND HOUSEHOLD CHARACTERISTICS OF YOUTH WITH DISABILITIES

	Estimated Percentage-Point Difference in Probability of Having Attended a:		Comparison Categories
	2- or 4-Year College	Postsecondary Vocational, Business, or Technical School	
Disability and functioning			
Speech/language impairment	8.5	-4.4	vs. learning disability ^a
Mental retardation	-12.1	3.3	vs. learning disability
Emotional disturbance	-6.2	-1.7	vs. learning disability
Hearing impairment	6.5	-1.1	vs. learning disability
Visual impairment	17.6*	-.1	vs. learning disability
Orthopedic impairment	-.3	2.4	vs. learning disability
Other health impairment	1.4	-1.6	vs. learning disability
Autism	14.2	2.7	vs. learning disability
Traumatic brain injury	-4.3	.0	vs. learning disability
Multiple disabilities/deaf-blindness	-1.2	6.5	vs. learning disability
ADD/ADHD	-1.0	6.2**	Yes vs. no
Number of problem domains	-2.7	1.5	3 vs. 1 domain
Functional cognitive skills	12.8**	-.8	High vs. low (15 vs. 7)
Self-care skills	4.3	2.7	High vs. low (8 vs. 4)
Social skills	.8	-1.5	High vs. low (27 vs. 17)
Demographics			
Age at Wave 2	12.4*	2.2	19 vs. 17 years
Gender	-5.8**	.0	Male vs. female
African-American	6.5	-1.9	vs. white
Hispanic	6.6	-3.0	vs. white
Household income	3.7	-.9	\$55,000 to \$59,999 vs. \$20,000 to \$24,999
Head of household education	10.8*	-.7	BA or higher vs. less than high school
Youth experiences			
Secondary-school-leaving status	18.4***	1.6	Graduate vs. dropout
Year student left secondary school	-21.4***	-3.8	2002-03 school year vs. earlier
Youth ever held back a grade	-15.5***	-2.6	Yes vs. no
Youth has paid employment	1.8	.2	Yes vs. no

Exhibit reads: The probability of attending a 2- or 4-year college is 17.6 percentage points higher for youth with visual impairments than for youth with learning disabilities. The probability of attending a 2- or 4-year college is 12.8 percentage points higher for youth whose functional cognitive skills are high than for youth whose functional cognitive skills are low.

^a Multivariate analyses require that for categorical variables, such as disability category, each category be compared with another specified category. Learning disability was chosen as the category against which to compare the relationships for other disability categories because it is the largest category and, therefore, most closely resembles the characteristics of youth with disabilities as a whole.

*p<.05; **p<.01; ***p<.001.

In this aspect they parallel their peers in the general population, among whom females have higher 2- or 4-year college enrollment rates than males.¹³ Controlling for disability category and other youth differences, racial/ethnic background is not associated with differences in 2- or 4-year college enrollment for youth with disabilities. None of the demographic characteristics are related to the probability of having attended a postsecondary vocational, business, or technical school when other differences among youth are held constant.

Controlling for other factors, including head of household education, household income is not related to the likelihood of having enrolled in either type of postsecondary school. However, head of household education is related to enrollment in 2- or 4-year colleges, with higher levels of parental education associated with higher levels of youth's participation in postsecondary education. Youth who live in families in which the head of household has a bachelor's degree or higher are 11 percentage points more likely to continue on to a 2- or 4-year college than are their peers from families in which the head of household has not completed high school ($p < .05$). In this area, too, they are similar to their peers in the general population, among whom "a young person's likelihood of attending a four-year college increases with the level of their parents' education" (Choy, 2002, p. 5). This relationship may reflect the fact that parents' education often is related to other factors that can be advantageous to youth's postsecondary attainment, such as household income and parental knowledge about the academic preparation, course taking, and application procedures necessary for attending postsecondary schools (Horn & Nunez, 2000). For example, parents in the general population who have a bachelor's degree are more likely than less well-educated parents to accompany students on visits to prospective colleges, to seek financial aid information, and to attend programs on educational options (Choy, 2002).

Household income, head of household education, and family expectations for postsecondary school attendance (which were included in analyses not reported here) are not related to the probability of enrolling in a postsecondary vocational, business, or technical school.

Youth's Experiences

Prior school-related experiences have strong associations with enrollment in 2- or 4-year colleges. Students who had earlier difficulties with school, reflected either in their dropping out or in their ever having been held back a grade, are much less likely to choose to continue their education after they leave secondary school or to be admitted if enrollment in postsecondary education is pursued. Consistent with bivariate analyses presented earlier, high school graduation is associated with a higher likelihood of having attended 2- or 4-year colleges. Secondary school graduates are 18 percentage points more likely than dropouts to have attended a 2- or 4-year postsecondary school, independent of other differences between them ($p < .001$). Youth who have been held back a grade are 16 percentage points less likely than those who have never repeated a grade to have continued their education at a 2- or 4-year college ($p < .001$).

Not surprisingly, youth who have just recently left school are less likely than those who have been out of school longer to have enrolled in a 2- or 4-year college. Those who are out of secondary school for less than a few months have had much less time to pursue a postsecondary education than those who have been out of high school for a year or more, especially because

¹³ Calculated for out-of-school 15- through 19-year-olds from the National Longitudinal Survey of Youth, 2000.

most sample youth were interviewed in the spring and summer, and many 2- and 4-year college programs do not begin until the fall. Students who left high school in the interview year—the 2002-03 school year—are 21 percentage points less likely than those who left earlier to have enrolled in a 2- or 4-year college ($p < .001$).

None of the school-related experiences included in the analyses—school-leaving status, length of time out of high school, and ever having been held back a grade—are associated with the likelihood of enrollment in postsecondary vocational, business, or technical programs. This finding mirrors bivariate findings in that youth who graduated from high school are no more likely than dropouts to have attended these types of schools.

Although it might be expected to compete with going to school, currently having a paid job is not related to differences in the probability of attending either a 2- or 4-year college or postsecondary vocational, business, or technical schools.

Postsecondary School Experiences

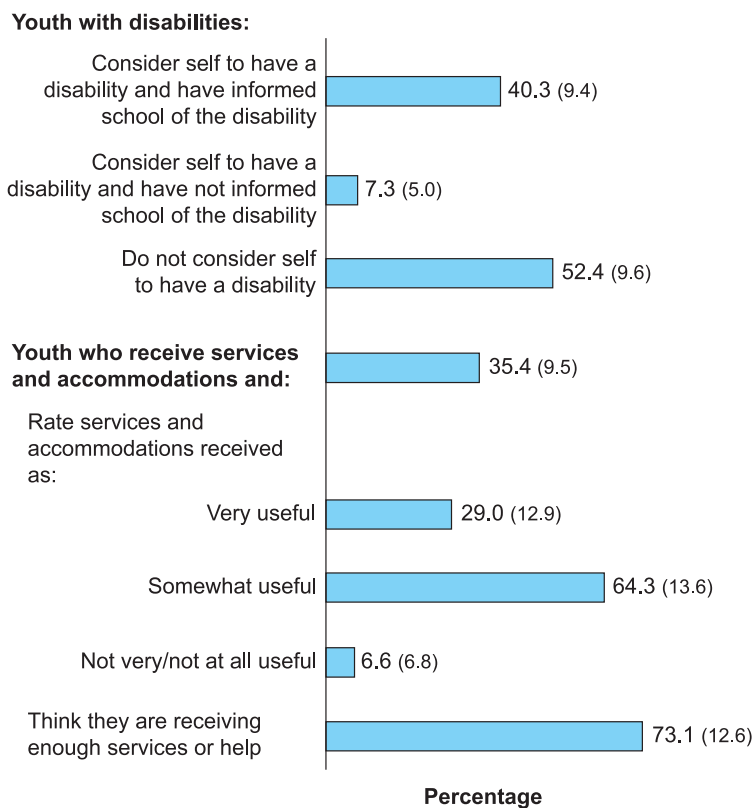
Although youth with disabilities who attend postsecondary schools share the experience of furthering their educations, the findings reported above indicate that they differ in the kinds of schools they attend. They also differ in other important aspects of their schooling. For example, postsecondary school is a full-time commitment for many youth with disabilities. Almost three-quarters (72%) of postsecondary students with disabilities attend school full-time, whereas more than one-fourth are part-time students. Similarly, 82% are enrolled in programs on a consistent basis, whereas 18% take classes some semesters or quarters but not others.

Receiving appropriate supports and accommodations can be critical to the postsecondary school success and retention of those who are enrolled in postsecondary school programs (Mull, Sitlington, & Alper, 2001; Pierangelo & Crane, 1997; Stodden & Dowrick, 2000; Stodden et al., 2002). Although a college is required to provide “appropriate academic adjustments as necessary to ensure that it does not discriminate on the basis of disability” (Office for Civil Rights, 2004, p. 2), accommodations that are a fundamental alteration of a program or that would impose an undue financial or administrative burden are not mandatory (Wolanin & Steele, 2004). Because schools interpret these guidelines differently, the types and extent of supports and accommodations available to students with disabilities vary widely (National Center for Education Statistics, 1999; Stodden et al., 2002).

As noted earlier, when students leave secondary school and enter postsecondary institutions, the responsibility for arranging for accommodations and supports shifts from the school to the students. At the postsecondary level, students with disabilities are expected to advocate for themselves (Stodden et al., 2002). “To receive accommodations, students with disabilities must disclose their disabilities and take the initiative in requesting accommodations” (Wolanin & Steele, 2004, p. ix). However, disclosure of a disability is voluntary. NLTS2 findings show that more than half (52%) of youth who received special education services while in secondary school and have gone on to postsecondary education do not consider themselves to have a disability by the time they have transitioned to postsecondary school (Exhibit 4-9). An additional 7% consider themselves to have a disability but choose not to disclose it to their postsecondary schools. Thus, 40% of postsecondary students with disabilities identify themselves as having a disability and have informed their postsecondary schools of that disability.

When students with disabilities are in high school, more than 90% of those in general education academic classes receive some type of accommodation, support, or other learning aid (Newman, Marder, & Wagner, 2003). With fewer than half identifying themselves as a person with a disability or choosing to disclose a disability, it is not surprising that receipt of services and accommodations is dramatically less common when youth with disabilities reach postsecondary school. Only slightly more than one-third (35%) of youth with disabilities in postsecondary school receive services, accommodations, or other learning aids from their schools, or 88% of those who have asked for assistance.

**Exhibit 4-9
POSTSECONDARY ACCOMMODATIONS AND SERVICES
OF YOUTH WITH DISABILITIES AND YOUTH'S
PERCEPTIONS OF THEM**



Source: NLTS2 Wave 2 parent/youth interviews.
Standard errors are in parentheses.

When those who were receiving services or accommodations were asked to rate how useful those supports were in helping them stay in school and do their best, 64% reported that the supports were “somewhat useful,” and 29% rated them as being “very useful” (Exhibit 4-9).¹⁴ Only 7% thought they were “not very” or “not at all useful.” Students who received supports and accommodations were asked whether they thought they were receiving enough support. Although approximately three-quarters of the 35% of youth with disabilities who received supports and accommodations thought they were receiving enough support, 27% reported that they needed more help. The 65% of youth with disabilities who were attending postsecondary school and not receiving services or accommodations were not asked whether they needed additional support.

¹⁴ Students who received services, accommodations, or other help from the school or obtained services on their own to help them in school were asked, “How useful have all the services and accommodations been in helping you stay in school and do your best there? Would you say...very useful, somewhat useful, not very useful, or not at all useful?”

Summary

This chapter focuses on the postsecondary education expectations and experiences of youth with disabilities who have been out of secondary school up to 2 years. When out-of-school youth still were in secondary school, three out of five were expected by their parents to further their educations after high school, but students' transition plan goals were even more optimistic. More than three-quarters had transition plans with postsecondary school attendance as a primary postschool goal. Disability category differences were fairly consistent between parents' expectations and transition plan goals. When they were still in high school, those with visual, hearing, or orthopedic impairments were more likely to plan to attend postsecondary school and to be expected by parents "definitely" to pursue postsecondary education. In contrast, those with mental retardation were among those least likely to be expected to attend postsecondary school, as well as those least likely to have postsecondary education transition plan goals.

Within 2 years of leaving high school, fewer youth with disabilities have continued on to postsecondary education than were expected to do so. Approximately one-third have taken postsecondary education classes since leaving high school, with one in five currently attending a postsecondary school. More youth with disabilities are enrolled in 2-year/community colleges than other types of postsecondary schools.

Although their current rate of attending postsecondary school is less than half that of their peers in the general population, their rate of current enrollment in 2-year/community colleges is not significantly different. Differences in enrollment between youth with disabilities and those in the general population are most apparent at 4-year colleges, where youth in the general population are more than four and one-half times as likely as youth with disabilities to be currently taking courses.

Not surprisingly, postsecondary school enrollment varies markedly by school-leaving status. High school completers are more than four times as likely as dropouts to continue on to postsecondary education. This difference is apparent for 2- and 4-year colleges but not for vocational, business, or technical schools, where dropouts are as likely as graduates to enroll.

Variations by disability category in 2- or 4-year college enrollment mirror variations in youth's postschool goals and parents' expectations. Those with hearing, visual, speech, or orthopedic impairments are more likely to attend these types of postsecondary schools than youth in several other disability categories. Youth with mental retardation are among those least likely to enroll in 2- or 4-year colleges. The variations across disability categories are somewhat different when examining attendance at postsecondary vocational, business, or technical schools. Youth with autism, hearing impairments, orthopedic impairments, or mental retardation are among those most likely to be enrolled in these types of schools.

Multivariate analyses indicate that several youth and household characteristics and experiences are associated with a higher probability of having enrolled in 2- or 4- year colleges. As would be expected, youth with higher functional cognitive skills are more likely than those with lower abilities to have enrolled in these types of schools, controlling for other factors. Young women with disabilities are more likely than young men to have continued their education at a 2- or 4-year college, and youth whose parents have a bachelor's degree or higher are more likely to have attended college than those from families in which the head of household

has not finished high school. Students who had earlier difficulties with school, reflected either in their dropping out or in ever have been held back a grade, are much less likely to have continued their education at a 2- or 4-year college. Only having ADD/ADHD was found to be associated with the likelihood of enrolling in a postsecondary vocational, business, or technical school, with a higher likelihood of enrollment being apparent for those with the disorder.

To receive accommodations at postsecondary schools, students must voluntarily disclose their disabilities. More than half of postsecondary school students who received special education services while in secondary school do not consider themselves to have a disability by the time they have transitioned to a postsecondary school. Not surprisingly, then, receipt of accommodations and supports is dramatically less common in postsecondary settings than in high school. Approximately one-third of youth with disabilities in postsecondary schools receive support, accommodations, or other learning aids from their schools.

More than a decade ago, NLTS found that many youth with disabilities delayed entry into postsecondary school for several years. Almost as many began their postsecondary studies 3 to 5 years out of school as began immediately after secondary school (Blackorby & Wagner, 1996). Future NLTS2 reports will ascertain whether this pattern continues to hold for youth with disabilities in the early 21st century.