4. CHANGES IN THE SCHOOL PARTICIPATION OF SECONDARY SCHOOL STUDENTS WITH DISABILITIES

The preceding two chapters document many changes in the schools attended by secondary school students with disabilities and in their educational programs. Are these changes in the educational contexts and experiences of students with disabilities reflected in changes in their school participation? Three dimensions of the school participation of students with disabilities are addressed in both NLTS and NLTS2 and are compared in this chapter:

- School attendance
- Academic performance (i.e., grades reported by teachers)
- School suspensions.

Information on these aspects of students' school participation is drawn from the NLTS school record abstract form, completed by a school staff member for students' most recent year in school—either the 1985-86 or 1986-87 school year. NLTS2 information is taken primarily from the Wave 1 student's school program survey,[1] completed in spring 2002 by the school staff person who was most knowledgeable about each student's overall school program.

Findings are presented for students with disabilities as a whole and for those who differed in their primary disability category, grade level, and selected demographic characteristics, where significant. In addition, links are made between findings reported here and those in an earlier comparison between NLTS and NLTS2 that focused on parents' reports of the experiences of youth, both in and out of school.[2]

School Attendance

School attendance is a basic indicator of being engaged in schooling. Although students with some kinds of disabilities are absent because of illnesses or treatments associated with their disability, some students, both with and without disabilities elect to skip school because of disaffection or alienation from the learning process.[3] Missing many days of school means missing coursework that is often difficult to make up. Students who are absent frequently also lose access to teachers and peers who can promote positive attitudes about and approaches to learning.

Research documents the negative pattern of school performance and behavior that is associated with high absenteeism. Multivariate NLTS2 analyses show that, independent of differences between students in their disability and demographic characteristics; family income, support for education, and expectations for the future; and school programs, higher absenteeism is associated with lower grades, lower achievement in mathematics, and less-positive classroom

[1] One aspect of students' school participation, grades, includes data from the NLTS2 general education teacher survey, as described in the section on academic performance.

[2] These comparisons are reported in Wagner, Cameto, & Newman. (2003).

[3] Statistics on absenteeism for the general population of secondary school students indicate that in the 2000-01 school year, 34% of absences among high school seniors were due to illness, 26% were due to students' skipping school, and 40% were due to other reasons (National Center for Education Statistics, 2002b).

behaviors, such as lower likelihoods of taking part in classroom discussions, staying focused on classwork, and completing homework on time (Newman, Davies-Mercier, et al., 2003). In addition, high absenteeism has been identified as a powerful predictor of academic failure and dropout decisions for students with disabilities (Blackorby & Wagner, 1996; Donahoe & Zigmond, 1990; Schellenberg et al., 1988; Thurlow et al., 2002; Wagner, 1991b).

In both NLTS and NLTS2, school staff who were familiar with the overall school programs and performance of students with disabilities reported the number of days students were absent. For NLTS, respondents reported the total number of days absent in students' most recent school year. Because NLTS2 collected information from schools before the end of the 2001-02 school year, the total number of days absent for the year could not be obtained. Therefore, respondents were asked to report the number of days absent in February 2002. NLTS findings were made comparable to those of NLTS2 by dividing the total number of days absent in the typical 36-week school year by 9 to obtain an estimate of the number of days absent in a 4-week period comparable to the month of February.

According to school staff reports, the average number of days students with disabilities were absent in a 4-week period increased over time by almost a full day (2.6 vs. 1.7 days, $p<.001$; Exhibit 4-1). Although this increase in absenteeism may not seem large, it translates into an additional 8 days of school missed in the school year for cohort 2, for an average absenteeism of 23 days, or more than 4 full weeks of school.

Exhibit 4-1
CHANGES IN THE SCHOOL ABSENTEEISM OF STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87	Cohort 2 (2001-02)	Change (Days or Percentage Points)
Mean days absent in a 4-week period	1.7 (.1)	2.6 (.2)	**+.9*** **
Percentage with number of days absent in a 4-week period			
None	19.9 (1.5)	33.8 (2.1)	**+13.9*** **
1 day	49.5 (1.9)	20.2 (1.7)	**-29.3*** **
2 or 3 days	19.1 (1.5)	24.5 (1.9)	**+5.4***
4 or more days	11.5 (1.2)	21.5 (1.8)	**+10.0*** **

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, ***=p<.001.

The increase in average absenteeism occurred despite a significant increase of 14 points in the percentage of students with disabilities who had perfect attendance (34% vs. 20%, $p<.001$). However, a 29-percentage-point decrease in the proportion of students who were absent only 1 day in a 4-week period (20% vs. 50%, $p<.001$) was offset by an increase of 5 percentage points in absenteeism of 2 or 3 days ($p<.05$) and a 10-percentage-point increase in absenteeism of 4 days or more ($p<.001$). More than one-fifth of cohort 2 students with disabilities (22%) missed 4 or more days of school in a 4-week period, or 7 weeks or more of school in the school year, with the resulting potential for negative effects on learning.

This trend toward higher absenteeism among students with disabilities, particularly in the percentage of students who were absent more than 1 day, is consistent with findings for the general student population. The percentage of high school seniors in the general population who reported they missed 2 or more days of school in a 4-week period increased from 47% in 1981 to 49% in 1991 and to 51% in 2000 (National Center for Education Statistics, 2002b). Further, the level of absenteeism among seniors with disabilities was quite similar to that for seniors in the general population; about 34% of both groups had perfect attendance, and about half missed 2 or more days of school in a 4-week period.

Academic Performance

Most secondary school students have considerable experience with course grades and report cards. As an indication of teachers' evaluation of students' academic performance, grades provide students with powerful messages about their academic status and abilities, which, over the course of their school careers, can help shape students' self-perceptions of their competence. Further, in high school, a passing grade is required for a course to contribute to accumulated credit for graduation. Grades also provide crucial information for consideration in college admissions (Polloway et al., 1994).

However, as a measure of academic performance, teacher-given grades have well-known limitations. Grades are composite measures that account not only for students' content mastery, but often for other factors, such as their class participation, attitude, progress over time, and attendance. Both general and special educators are known to consider these various factors when grading but to emphasize different factors. For example, special education teachers of secondary school students with disabilities are less likely than general educators to consider homework or attendance to be important in grading student performance but are more likely to consider in-class participation and daily class work to be important (Newman, Marder, et al., 2003). Differences in grading criteria in general and special education classrooms also have been found for elementary and middle school students with disabilities (Blackorby, Wagner, et al., 2003). Moreover, substantial variations in grading practices occur across teachers, schools, and school districts. Despite these complicating factors, student grades still are an important indicator of academic performance for students with disabilities because they indicate success by a teacher's standards and success relative to other students in a given classroom.

In both NLTS and NLTS2, school staff were asked to report the grades received by students with disabilities, but in different ways.[4] In NLTS, grades were reported for each course taken during students' most recent school year, from which an overall measure of grades was calculated. In NLTS2, current grades were reported in the general education teacher survey for a general education academic class, if the student was taking such a class, and in the student's school program survey for a nonvocational special education class, if the student had such a class in his or her course schedule. NLTS2 analyses incorporate the grades for the setting in which the student took the larger proportion of his or her courses.

There was a significant improvement over time in the grades students with disabilities received (Exhibit 4-2). The proportion of students receiving mostly Cs decreased by 20

[4] See Appendix A for a description of how the overall GPA in NLTS was translated into the grade categories reported in NLTS2.

percentage points (p<.001), with corresponding increases in students receiving mostly As or Bs (16 and 10 percentage points; p<.001 and p<.01). These changes nearly doubled the percentage of students receiving above-average grades, bringing the total to more than half of students with disabilities. There was no change in the percentage of youth who received below-average grades (24% and 19% received mostly Ds or Fs in cohorts 1 and 2, respectively).

Exhibit 4-2
CHANGES IN THE GRADES OF STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87	Cohort 2 (2001-02)	Percentage-Point Change
Percentage receiving:			
Mostly As	2.8 (.6)	18.6 (2.3)	**+15.8*** **
Mostly Bs	24.3 (1.7)	34.0 (2.8)	**+9.7** **
Mostly Cs	49.1 (1.9)	28.6 (2.7)	**-20.5*** **
Mostly Ds	17.0 (1.5)	14.6 (2.1)	-2.4
Mostly Fs	6.8 (1.0)	4.2 (1.2)	-2.6

Sources: NLTS school record abstract, NLTS2 Wave 1 student's school program survey, and NLTS2 general education teacher survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: **=p<.01, ***=p<.001.

These grade improvements are consistent in direction but not necessarily in scale with those reported for students in the general population for the early part of the time period between NLTS and NLTS2. Comparing grades reported for students in High School and Beyond (1982) and seniors in the National Education Longitudinal Study of 1988 (NELS:88 second follow-up, 1992), Koretz and Berends report inflation of students' overall grade point average that they describe as "mostly very small" (Koretz & Berends, 2001, p. xii)—an increase of 3 points in the percentage of students earning mostly Bs or above.

The pattern of improved grades among students with disabilities may bode well for their social adjustment. Multivariate NLTS2 analyses demonstrate a significant relationship between better grades and lower likelihoods of being subject to disciplinary actions at school and arrest in the community, independent of differences between students in their disability, social skills, demographic characteristics, or school programs (Marder, Wagner, & Sumi, 2003). Further, improved grades are consistent with reports by parents of NLTS and NLTS2 students, which show a 21-percentage-point increase in the proportion of students with disabilities who are at the typical grade level for their age (Wagner, Cameto, et al., 2003). Earning better grades is an important element in maintaining a typical grade-level progression through a student's school career.

School Suspension

The majority of youth in secondary school establish healthy relationships, find socially acceptable ways to engage in activities that interest them, and persevere in school through graduation. However, some adolescents experience more challenges than their peers. When behavior violates the accepted norms at school, negative repercussions can result, such as suspension from school. Students with disabilities include a disproportionate number of students who are at high risk for difficulties in social adjustment and may have positive behavioral supports included as part of their individualized education programs or of behavioral intervention plans. An increase in the adoption of "zero tolerance" policies for behaviors that could be considered threatening or dangerous could be expected to result in increased incidents of disciplinary action

for such students or others who exhibit behaviors that are considered inappropriate or intolerable at school. In fact, "the number of suspensions and expulsions has increased dramatically in recent years" (Phi Delta Kappa Center for Evaluation, Development, and Research, 1998, p. 1). For example, the state of North Carolina reported a 27% increase in long-term suspensions, a 20% increase in short-term suspensions, and a 54% increase in expulsions from the 2000-01 to the 2001-02 school year (Public Schools of North Carolina, 2002).

This increase in disciplinary actions involving the general student population also is apparent among students with disabilities. Although the behavior of the large majority of students with disabilities did not violate school norms in either cohort 1 or 2 to the extent that suspensions resulted (Exhibit 4-3), the percentage of those who had been suspended increased by 8 percentage points ($p<.001$), so that by cohort 2, 20% of students had been suspended during that school year. The increase in overall suspensions resulted from an 8-percentage-point increase in the percentage of students suspended for 1 or 2 days ($p<.001$). However, this change did not significantly affect the average number of days suspended, which remained less than 1 day per year for students with disabilities overall. This finding suggests that although more cohort 2 students had been suspended, the suspensions tended to be shorter than in cohort 1. The reduction in the average number of days suspended from 6 days to 4 days ($p<.05$) among students who had been subject to suspension supports this conclusion.

Exhibit 4-3
CHANGES IN THE SCHOOL SUSPENSIONS OF STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87	Cohort 2 (2001-02)	Percentage-Point Change
Percentage with:			
Any suspensions	12.0 (1.3)	19.7 (1.8)	**+8.3*** **
1 or 2 days suspended	2.7 (.7)	11.0 (1.4)	**+8.3*** **
3 or more days suspended	9.3 (1.2)	8.7 (1.2)	-.6
Mean days suspended, all students with disabilities	.7 (.1)	.8 (.1)	+.1
Mean days suspended, students with any suspensions	6.1 (.9)	4.0 (.5)	**-2.1***

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, ***=p<.001.

Given the short duration of suspensions experienced by most students who were suspended at all, the provisions in the Individuals with Disabilities Education Act Amendments of 1997 (IDEA '97) regarding longer-term suspensions actually may affect only a few students. IDEA '97 stipulates that if a problematic infraction or behavior is linked to a student's disability, suspensions cannot exceed 10 days without a meeting of the team that plans a student's individualized education program to consider service or placement alternatives, a requirement that was not in effect in 1986. In light of this legislative mandate, it is not surprising that virtually all cohort 2 students with disabilities (95%) were attending schools where school staff reported having a policy of arranging for alternative placements or services for suspended students with disabilities, a 21-percentage-point increase in the likelihood of going to schools with a such a policy ($p<.001$).

The increase in the proportion of students with disabilities who were suspended, as reported by schools, is consistent with parents' reports of whether their adolescent children had experienced one or more of the following negative consequences of behavior: being suspended

or expelled from school, fired from a job, or arrested. Comparisons of NLTS and NLTS2 show a 6-percentage-point increase in this indicator of negative social adjustment between 1987 and 2001 (Wagner, Cameto, et al., 2003).

Increases in suspensions are worrisome because disciplinary actions at school have been shown to correlate highly with poor social skills, poor classroom social behaviors (e.g., getting along with other students), and a higher likelihood of students' being involved in bullying and being arrested (Marder, Wagner, & Sumi, 2003).

Differential Changes in School Participation across Disability Categories

The aspects of students' school participation described thus far reflect both the cognitive and social abilities of students. Given the tremendous diversity among students with disabilities on these and other functional dimensions, it is not surprising that significant differences are noted across disability categories in changes in school participation, as described in the following sections.

School Attendance

The increase in perfect attendance that was reported for students with disabilities as a whole (presented in Exhibit 4-1) occurred for students in all disability categories (Exhibit 4-4), with increases ranging from 11 percentage points for students with emotional disturbances ($p<.05$) to

Exhibit 4-4
CHANGES IN STUDENTS' ABSENTEEISM, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
In a 4-week period:									
Percentage with perfect attendance									
Cohort 1 (1985-86/1986-87)	18.6	19.3	22.0	21.8	20.7	26.1	26.6	24.1	21.0
	(2.3)	(3.3)	(2.5)	(3.1)	(2.8)	(4.3)	(4.2)	(4.7)	(5.0)
Cohort 2 (2001-02)	31.3	38.0	38.4	33.2	46.7	47.6	40.7	43.0	36.9
	(3.1)	(3.5)	(3.3)	(4.1)	(4.1)	(4.9)	(3.6)	(2.9)	(3.7)
Percentage-point change	**+12.7*** **	**+18.7*** **	**+16.4*** **	**+11.4***	**+26.0*** **	**+21.5*** **	**+14.1***	**+18.9*** **	**+15.9***
Percentage absent 4 or more days									
Cohort 1 (1985-86/1986-87)	11.0	6.1	11.6	16.1	5.4	4.6	11.2	13.7	21.0
	(1.8)	(2.0)	(1.9)	(2.8)	(1.5)	(2.1)	(3.0)	(3.8)	(5.0)
Cohort 2 (2001-02)	22.3	15.2	19.9	24.2	14.8	10.0	20.2	16.6	23.0
	(2.8)	(2.6)	(2.7)	(3.7)	(2.9)	(2.9)	(2.9)	(2.2)	(3.2)
Percentage-point change	**+11.3*** **	**+9.1** **	**+8.3***	+8.1	**+9.4** **	+5.4	**+9.0***	+2.9	+2.0
Mean days absent									
Cohort 1 (1985-86/1986-87)	1.7	1.3	1.6	1.9	1.2	1.1	1.5	1.7	1.9
	(.1)	(.1)	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)
Cohort 2 (2001-02)	2.7	1.9	2.2	3.1	1.8	1.5	2.1	1.9	2.7
	(.3)	(.2)	(.2)	(.4)	(.3)	(.3)	(.2)	(.2)	(.3)
Change in mean days absent	**+1.0** **	+.6	**+.6** **	**+1.2** **	+.6	+.4	**+.6***	+.2	**+.8***

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

26 percentage points for students with hearing impairments ($p<.001$). With these increases, the percentages of students with perfect attendance range from about one-third to one-half of cohort 2 students across disability categories ($p<.01$ comparing students with hearing or visual impairments and those with learning disabilities).

Nonetheless, increases in relatively high absenteeism also are apparent for students in five of the nine disability categories. Significant increases range from 8 percentage points among students with mental retardation ($p<.05$) to 11 percentage points among students with learning disabilities ($p<.001$). With these changes, the percentages of cohort 2 students who were absent 4 or more days in a 4-week period range from 10% of students with visual impairments to 24% of students with emotional disturbances ($p<.01$).

Increases in high absenteeism resulted in increases in the average number of days absent for students with learning disabilities, mental retardation, or orthopedic impairments (.6 to 1.0 days, $p<.05$ and $p<.01$). In contrast, increases in perfect attendance for students with speech or hearing impairments offset increases in high absenteeism, resulting in no change in the average number of days absent for those groups. Students with emotional disturbances or multiple disabilities show increases in the average days absent (1.2 and .8 days, $p<.01$ and $p<.05$) without an increase in high absenteeism, indicating that the increases occurred among students who missed 1 to 3 days of school in a 4-week period.

Academic Performance

The lack of any change in grades at the lower end of the grade scale found among students with disabilities as a whole (presented in Exhibit 4-2) is apparent for students in every disability category; there were no significant changes in the proportions of students with disabilities receiving mostly Ds or Fs. However, the pattern of receiving fewer Cs and more As and Bs that was reported previously for students with disabilities as a whole did not occur consistently across disability categories (Exhibit 4-5); in fact, there were no significant changes in grades at all for students with mental retardation or other health impairments, despite the fact that they had significant increases in their likelihood of being at the appropriate grade level for their age (Wagner, Cameto, et al., 2003). Only students with learning disabilities or emotional disturbances show significant increases in receiving both mostly As and mostly Bs (16 and 12 percentage points, $p<.001$ and $p<.01$), corresponding to 24- and 18-percentage-point decreases in receiving mostly Cs ($p<.001$ and $P<.01$)).

Significant reductions in receipt of mostly Cs among students with speech, visual, or orthopedic impairments (12 and 18 percentage points, $p<.05$) translated into increases only in the proportions of students receiving mostly As (18 and 23 percentage points, $p<.001$ and $p<.01$), and students with hearing impairments show reductions in receipt of both mostly Cs and mostly Bs (16 and 14 percentage points, $p<.01$ and $p<.05$).

Exhibit 4-5
CHANGES IN STUDENTS' GRADES, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage receiving:									
Mostly As									
Cohort 1 (1985-86/1986-87)	2.4	6.4	3.2	1.0	6.7	11.4	10.2	7.9	4.4
	(.9)	(2.0)	(1.1)	(.7)	(1.7)	(3.3)	(2.8)	(2.9)	(3.3)
Cohort 2 (2001-02)	18.9	24.3	12.1	14.2	32.7	34.6	33.3	15.6	23.1
	(3.2)	(3.5)	(4.6)	(4.0)	(5.4)	(6.3)	(4.6)	(2.8)	(8.4)
Percentage-point change	**+16.5*** **	**+17.9*** **	+8.9	**+13.2** **	**+26.0*** **	**+23.2*** **	**+23.1** **	+7.7	**+18.7***
Mostly Bs									
Cohort 1 (1985-86/1986-87)	22.6	32.6	26.0	20.4	48.6	38.8	45.2	32.9	36.9
	(2.4)	(3.8)	(2.8)	(3.0)	(3.3)	(5.0)	(4.7)	(5.1)	(7.8)
Cohort 2 (2001-02)	35.0	33.3	23.4	32.6	34.5	33.3	34.4	33.1	31.5
	(3.8)	(3.8)	(6.0)	(5.4)	(5.5)	(6.3)	(4.6)	(3.6)	(9.3)
Percentage-point change	**+12.4** **	+.7	-2.6	**+12.2***	**-14.1***	-5.5	-10.8	+.2	-5.4
Mostly Cs									
Cohort 1 (1985-86/1986-87)	52.2	37.4	46.7	44.9	34.7	42.6	33.0	38.6	42.7
	(2.9)	(3.9)	(3.2)	(3.7)	(3.2)	(5.1)	(4.4)	(5.2)	(8.0)
Cohort 2 (2001-02)	28.6	25.4	39.6	26.4	18.3	24.4	21.2	31.9	27.0
	(3.6)	(3.5)	(7.0)	(5.1)	(4.5)	(5.7)	(4.0)	(3.5)	(8.9)
Percentage-point change	**-23.6*** **	**-12.0***	-7.1	**-18.5** **	**-16.4** **	**-18.2***	**-11.8***	-6.7	-15.7

Sources: NLTS school record abstract, NLTS2 Wave 1 student's school program survey, and NLTS2 general education teacher survey.

Note: Only factors for which there was a statistically significant change for at least one category of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Despite fairly widespread improvements in grades, there remain significant differences in cohort 2 students' grades across disability categories. For example, students with mental retardation were significantly less likely to receive mostly As (12%) and more likely to receive mostly Cs (40%) than students in most categories (e.g., 33% and 21% for students with orthopedic impairments, p<.01 and p<.05). Students with visual or hearing impairments tended to have the best grades overall, as well as among the largest increases over time in receiving mostly As (23 and 26 percentage points, p<.001).

School Suspension

The significant increase in the likelihood of being suspended among students with disabilities as a whole (presented in Exhibit 4-3) was fairly widespread, with increases noted for six of nine disability categories (Exhibit 4-6). Increases in the proportions of students with disabilities attending schools with policies to arrange alternative placements and services for suspended students with disabilities also were widespread, occurring for all categories, with increases ranging from 15 to 26 percentage points.

Exhibit 4-6
CHANGES IN SCHOOL SUSPENSIONS, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage with any suspensions									
Cohort 1 (1985-86/1986-87)	10.1	8.7	11.0	31.4	7.6	2.4	2.0	6.6	3.3
	(1.9)	(2.5)	(2.0)	(3.8)	(2.0)	(1.6)	(1.4)	(3.0)	(2.5)
Cohort 2 (2001-02)	16.8	11.1	19.1	44.1	10.8	8.9	5.6	21.3	10.3
	(2.5)	(2.2)	(2.7)	(4.4)	(2.5)	(2.6)	(1.6)	(2.4)	(2.3)
Percentage-point change	**+6.7***	+2.4	**+8.1***	**+12.7***	+3.2	**+6.5***	+3.6	**+14.7*****	**+7.0***
Percentage suspended 1 or 2 days									
Cohort 1 (1985-86/1986-87)	2.4	2.5	2.2	6.7	1.8	.3	.6	1.1	.8
	(1.0)	(1.4)	(.9)	(2.1)	(1.0)	(.6)	(.8)	(1.3)	(1.2)
Cohort 2 (2001-02)	10.3	7.3	11.3	20.1	3.8	5.9	3.8	9.2	4.3
	(2.1)	(1.8)	(2.2)	(3.6)	(1.5)	(2.2)	(1.3)	(1.7)	(1.5)
Percentage-point change	**+7.9*****	**+4.8***	**+9.1*****	**+13.4*****	+2.0	**+5.6***	**+3.2***	**+8.1****	+3.5
Mean days suspended									
Cohort 1 (1985-86/1986-87)	.6	.4	.8	2.0	.4	.1	.1	.3	.3
	(.2)	(.2)	(.2)	(.4)	(.2)	(.1)	(.1)	(.1)	(.3)
Cohort 2 (2001-02)	.6	.3	.7	2.2	.8	.2	.2	1.1	.4
	(.1)	(.1)	(.1)	(.5)	(.3)	(.1)	(.1)	(.2)	(.1)
Percentage-point change	.0	-.1	-.1	+.2	+.4	+.1	+.1	**+.8*****	+.1

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Note: Only factors for which there was a statistically significant change for at least one category of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Particularly large increases occurred among students with emotional disturbances (13 percentage points, $p<.05$) or other health impairments (15 percentage points, $p<.001$). These two categories of students with disabilities also were the most likely to have increases in parents' reports that they had experienced the negative consequences of poor behavior by being suspended or expelled, fired from a job, or arrested (Wagner, Cameto, et al., 2003). In contrast, no significant increases in the likelihood of being suspended occurred for students with speech, hearing, or orthopedic impairments.

For all categories except students with multiple disabilities, increases in the proportions of students having any suspensions resulted from significantly more students being suspended for 1 or 2 days (significant increases range from 3 to 13 percentage points, $p<.05$ to $p<.001$). Students with speech or orthopedic impairments show significant increases in rates of suspension for 1 or 2 days without showing increases in the likelihood of being suspended at all, suggesting that the increases in short-duration suspensions came from decreases in suspensions for more than 1 or 2 days. Additionally, among students with other health impairments, there was a significant increase of almost a full day in the average number of days suspended, bringing the average to 1.1 days per year among cohort 2 students in that category ($p<.001$).

Students with emotional disturbances were the most likely to be suspended for their behavior in both cohorts (31% and 44%, $p<.001$ compared with students with learning disabilities, for example). In contrast, fewer than 10% of students with visual or orthopedic impairments had been suspended at either point in time.

Differential Changes in School Participation across Grade Levels

There are many reasons to expect that the indicators of school participation assessed in this chapter would vary among students at different grade levels. For example, if students who drop out of school in the early high school years are those with higher absenteeism, lower grades, and/or poor social adjustment at school, one could expect school performance to be higher at the upper grade levels, where the student body has been purged of the poor performers who dropped out. Alternatively, "senioritis"—the propensity for high school seniors to miss school or relax their academic efforts in their last semester of high school, when graduation and postsecondary education outcomes are clear—could lead to particularly high absenteeism among seniors. This section describes changes in the school performance of students with disabilities that occur differentially across middle and high school grade levels.[5]

School attendance. Increases in perfect attendance are noted for students with disabilities in 7th through 11th grades (Exhibit 4-7); increases range from 14 to 16 percentage points ($p<.05$ and $p<.01$). For middle school students and high school juniors, this improvement is in contrast to increases in the percentage of students absent 4 or more days (15 and 11 percentage points, $p<.01$ and $p<.05$).

Exhibit 4-7
CHANGES IN THE ABSENTEEISM OF STUDENTS WITH DISABILITIES, BY GRADE LEVEL

	7th or 8th Grade	9th Grade	10th Grade	11th Grade	12th Grade
In a 4-week period:					
Percentage with perfect attendance					
Cohort 1 (1985-86/1986-87)	17.7	19.5	20.6	18.5	20.8
	(4.1)	(3.2)	(3.1)	(3.3)	(4.5)
Cohort 2 (2001-02)	32.0	33.0	34.8	34.2	34.2
	(5.6)	(4.5)	(4.0)	(4.3)	(5.8)
Percentage-point change	**+14.3***	**+13.5***	**+14.2****	**+15.7****	+13.4
Percentage absent 4 or more days					
Cohort 1 (1985-86/1986-87)	6.4	15.7	12.3	10.8	7.5
	(2.7)	(3.0)	(2.5)	(2.7)	(2.9)
Cohort 2 (2001-02)	21.8	18.0	17.5	22.1	29.6
	(4.9)	(3.7)	(3.2)	(3.8)	(5.6)
Percentage-point change	**+15.4****	+2.3	+5.2	**+11.3***	**+22.1*****
Mean days absent					
Cohort 1 (1985-86/1986-87)	1.4	1.9	1.7	1.7	1.5
	(.1)	(.2)	(.1)	(.1)	(.1)
Cohort 2 (2001-02)	2.4	2.5	2.4	2.3	3.0
	(.4)	(.4)	(.3)	(.3)	(.5)
Change in mean days absent	**+1.0***	+.6	**+.7***	+.6	**+1.5****

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

[5] For convenience, students in grades 7 and 8 are referred to as middle school students, and those in grades 9 and above are referred to as high school students.

High school seniors show no improvement in perfect attendance and a very large, 22-percentage-point increase in high absenteeism ($p<.001$), perhaps in part reflecting the "senioritis" noted above. In fact, in the general student population, seniors report a higher percentage of their absences due to skipping school (26%) than do 8th graders (9%, $p<.001$) or 10th graders (16%, $p<.001$; National Center for Education Statistics, 2002b). The increase in high absenteeism among seniors with disabilities resulted in an increase of 1.5 days in the average number of days absent in a 4-week period ($p<.01$), or a total of more than 13 additional days over the school year. Increases in average absenteeism days also are noted for middle school students with disabilities and 10th graders (1.0 and .7 days, $p<.05$). However, average absenteeism among cohort 2 students with disabilities was quite similar across grade levels.

Although the attendance of some students with disabilities improved between cohorts 1 and 2, middle school students with disabilities tended to be absent more than students in the general population. For example, 32% of cohort 2 7th- and 8th-grade students with disabilities had perfect attendance, compared with 45% of 8th-grade students in the general population ($p<.05$); differences between students with disabilities and the general population at other grade levels are not statistically significant (U.S. Department of Health and Human Services, 2003).

Academic performance. Grades improved for students at all grade levels (Exhibit 4-8). Specifically, the percentage of students receiving mostly As increased significantly across the grade span between cohorts 1 and 2, ranging from 13 percentage points for 9th graders ($p<.01$) to 24 percentage points for 12th graders ($p<.01$). Cohort 2 9th graders also saw a significant increase in the percentage receiving mostly Bs (17 percentage points, $p<.05$). Fewer students received mostly Cs across all grade levels, with the exception of high school juniors; significant

Exhibit 4-8
CHANGES IN THE GRADES OF STUDENTS WITH DISABILITIES, BY GRADE LEVEL

	7th or 8th Grade	9th Grade	10th Grade	11th Grade	12th Grade
Percentage receiving:					
Mostly As					
Cohort 1 (1985-86/1986-87)	2.3	1.4	2.0	3.3	7.0
	(1.6)	(.9)	(1.1)	(1.5)	(2.8)
Cohort 2 (2001-02)	18.4	14.8	17.2	17.3	31.1
	(6.1)	(4.5)	(4.2)	(4.6)	(8.0)
Percentage-point change	**+16.1***	**+13.4****	**+15.2*****	**+14.0****	**+24.1****
Mostly Bs					
Cohort 1 (1985-86/1986-87)	22.3	18.0	22.7	32.6	29.7
	(4.4)	(3.1)	(3.1)	(4.0)	(5.0)
Cohort 2 (2001-02)	34.3	34.7	32.7	32.0	38.5
	(7.5)	(6.0)	(5.2)	(5.6)	(8.4)
Percentage-point change	+12.0	**+16.7***	+10.0	-.6	+8.8
Mostly Cs					
Cohort 1 (1985-86/1986-87)	53.1	49.3	47.0	45.7	53.0
	(5.3)	(4.0)	(3.8)	(4.2)	(5.5)
Cohort 2 (2001-02)	34.8	29.8	26.6	32.2	19.4
	(7.5)	(5.7)	(4.9)	(5.6)	(6.9)
Percentage-point change	**-18.3***	**-19.5****	**-20.4*****	-13.5	**-33.6*****

Sources: NLTS school record abstract, NLTS2 Wave 1 student's school program survey, and NLTS2 general education teacher survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

decreases range from 18 to 34 percentage points ($p<.05$ to $p<.001$). Despite the fact that seniors show the largest improvement in grades over time and appear to have a pattern of somewhat higher grades at cohort 2 than other students, differences across grade levels in cohort 2 do not reach statistical significance.

School suspensions. Only high school juniors with disabilities mirror the significant increase in the likelihood of suspensions that occurred among students with disabilities as a whole (10 percentage points, $p<.05$; Exhibit 4-9). However, there were significant increases in the percentage of students suspended for 1 or 2 days among students with disabilities in 9th, 11th, and 12th grades (8 to 12 percentage points, $p<.05$ and $p<.01$). The average number of days suspended did not change significantly over time at any grade level. In neither cohort did students with disabilities at different grade levels differ in their likelihood of being suspended.

Exhibit 4-9
CHANGES IN SUSPENSIONS OF STUDENTS WITH DISABILITIES, BY GRADE LEVEL

	7th or 8th Grade	9th Grade	10th Grade	11th Grade	12th Grade
Percentage with any suspensions					
Cohort 1 (1985-86/1986-87)	17.1	13.4	13.9	8.9	7.9
	(4.3)	(2.9)	(2.9)	(2.6)	(3.1)
Cohort 2 (2001-02)	19.7	22.3	20.5	18.5	19.1
	(5.0)	(4.0)	(3.5)	(3.5)	(4.9)
Percentage-point change	+2.6	+8.9	+6.6	**+9.6***	+11.2
Percentage suspended 1 or 2 days					
Cohort 1 (1985-86/1986-87)	2.0	2.2	4.1	3.1	3.0
	(1.6)	(1.3)	(1.7)	(1.6)	(2.0)
Cohort 2 (2001-02)	8.0	11.5	10.0	11.5	14.6
	(3.4)	(3.1)	(2.6)	(2.9)	(4.4)
Percentage-point change	+6.0	**+9.3****	+5.9	**+8.4****	**+11.6***

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01.

Differential Changes in School Participation across Demographic Groups

Differential changes in school performance are found for students with disabilities who differed in their gender, household income, and racial/ethnic background.

Differential Changes in School Participation Related to Gender

School attendance. The changes in the attendance patterns for boys and girls appear to follow those described for students with disabilities overall (Exhibit 4-10). There were increases in the proportions of students having perfect attendance of 14 percentage points for boys

Exhibit 4-10
CHANGES IN THE ABSENTEEISM OF STUDENTS WITH DISABILITIES, BY GENDER

	Boys	Girls
In a 4-week period:		
Percentage with perfect attendance		
Cohort 1 (1985-86/1986-87)	19.2 (2.0)	21.2 (3.0)
Cohort 2 (2001-02)	33.6 (2.5)	34.0 (3.5)
Percentage-point change	**+14.4*** **	**+12.8** **
Percentage absent 4 or more days		
Cohort 1 (1985-86/1986-87)	11.6 (1.7)	9.6 (2.2)
Cohort 2 (2001-02)	19.8 (2.1)	24.9 (3.2)
Percentage-point change	**+8.2** **	**+15.3*** **
Mean days absent		
Cohort 1 (1985-86/1986-87)	1.7 (.1)	1.6 (.1)
Cohort 2 (2001-02)	2.4 (.2)	2.9 (.3)
Percentage-point change	**+.7** **	**+1.3*** **

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: **p<.01, *** p<.001.

(p<.001) and 13 percentage points for girls (p<.01). There also were increases in the percentages of boys and girls absent 4 or more days. Increases were more pronounced among girls (15 percentage points, p<.001) than among boys (8 percentage points, p<.01). An increase in the average number of days absent occurred for both groups (.7 days for boys, p<.01, and 1.3 days for girls, p<.001). However, there are no significant differences between genders in their overall pattern of absenteeism at either time.

Academic performance. Improvements in grades are apparent for both boys and girls (Exhibit 4-11). Both groups show increases in the percentage of students receiving mostly As (14 and 19 percentage points for boys and girls, respectively, p<.001) and decreases in the percentage receiving mostly Cs (21 percentage points, p<.001). These changes are consistent with the fact that both genders show similar increases in their likelihood of being at the appropriate grade level for their age (Wagner, Cameto, et al., 2003). Boys also show an 11-percentage-point increase in the percentage who received mostly Bs (p<.01). With fairly similar changes over time, there are no significant differences in grades between boys at girls at either time period.

Exhibit 4-11
CHANGES IN THE GRADES OF STUDENTS WITH DISABILITIES, BY GENDER

	Boys	Girls
Percentage receiving:		
Mostly As		
Cohort 1 (1985-86/1986-87)	2.3 (.8)	4.6 (1.6)
Cohort 2 (2001-02)	16.4 (2.7)	23.2 (4.3)
Percentage-point change	**+14.1*** **	**+18.6*** **
Mostly Bs		
Cohort 1 (1985-86/1986-87)	22.7 (2.2)	27.6 (3.4)
Cohort 2 (2001-02)	34.1 (3.4)	33.7 (4.9)
Percentage-point change	**+11.4** **	+6.1
Mostly Cs		
Cohort 1 (1985-86/1986-87)	49.8 (2.6)	49.6 (3.7)
Cohort 2 (2001-02)	28.8 (3.3)	28.3 (4.6)
Percentage-point change	**-21.0*** **	**-21.3*** **

Sources: NLTS school record abstract, NLTS2 Wave 1 student's school program survey, and NLTS2 general education teacher survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: **=p<.01, ***=p<.001.

Exhibit 4-12
CHANGES IN THE SUSPENSIONS OF STUDENTS WITH DISABILITIES, BY GENDER

	Boys	Girls
Percentage with any suspensions		
Cohort 1 (1985-86/1986-87)	13.5 (1.9)	9.0 (2.3)
Cohort 2 (2001-02)	24.5 (2.4)	10.4 (2.3)
Percentage-point change	**+11.0*** **	+1.4
Percentage suspended 1 or 2 days		
Cohort 1 (1985-86/1986-87)	3.1 (1.0)	2.6 (1.3)
Cohort 2 (2001-02)	13.7 (1.9)	5.8 (1.8)
Percentage-point change	**+10.6*** **	+3.2

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following level: ***=p<.001.

School suspensions. Although the average number of days suspended did not change for either gender, boys show a significant increase in the likelihood of suspensions between cohorts 1 and 2 (Exhibit 4-12). The 11-percentage-point increase in suspensions for boys is accounted for by an increase in the proportion of students receiving suspensions of 1 or 2 days (11 percentage points, p<.001). This pattern contrasts with parents' reports of very similar increases for boys and girls with disabilities in their likelihood of being fired from a job, suspended or expelled from school, or arrested (Wagner, Cameto, et al., 2003). Although no difference is evident between cohort 1 boys and girls in their likelihood of suspension, cohort 2 boys were significantly more likely to be subject to this disciplinary action at school than girls (24% vs. 10%, p<.001). However, no difference is noted between boys and girls in the likelihood that their schools had a policy of arranging alternative placements or services when they were suspended.

Differential Changes in School Participation Related to Household Income and Racial/Ethnic Background

School attendance. Students from all household income levels show significant increases in the percentage of students with perfect attendance in a 4-week period, ranging from 11 to 20 percentage points (p<.01 and p<.001; Exhibit 4-13). Reflecting the particularly large increase among students in the highest income category, these students were significantly more likely than students in the lowest income category to have perfect attendance in cohort 2 (40% vs. 29%, p<.05). In addition, there were increases in the percentage of students with relatively high absenteeism among students with disabilities in the middle and highest income groups (20

Exhibit 4-13
CHANGES IN THE ABSENTEEISM OF STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Medium	Highest	White	African American	Hispanic
In a 4-week period:						
Percentage with perfect attendance						
Cohort 1 (1985-86/1986-87)	17.5 (3.5)	18.7 (3.3)	19.9 (2.8)	20.0 (2.0)	18.6 (3.8)	18.8 (6.6)
Cohort 2 (2001-02)	28.9 (3.6)	33.7 (4.1)	40.4 (4.2)	35.2 (2.6)	32.5 (4.5)	27.9 (5.8)
Percentage-point change	**+11.4****	**+15.0****	**+20.5*****	**+15.2*****	**+13.9***	+9.1
Percentage absent 4 or more days						
Cohort 1 (1985-86/1986-87)	17.7 (3.5)	9.1 (2.4)	6.0 (1.6)	8.6 (1.4)	15.1 (3.5)	23.7 (7.1)
Cohort 2 (2001-02)	21.7 (3.2)	29.1 (4.0)	14.0 (2.9)	20.8 (2.2)	19.8 (3.8)	27.8 (5.8)
Percentage-point change	+4.0	**+20.0*****	**+8.0****	**+12.2*****	+4.7	+4.1
Mean days absent						
Cohort 1 (1985-86/1986-87)	2.1 (.2)	1.6 (.1)	1.3 (.1)	1.4 (.1)	1.9 (.2)	2.5 (.3)
Cohort 2 (2001-02)	2.7 (.3)	3.4 (.4)	1.7 (.2)	2.3 (.2)	2.8 (.4)	3.4 (.6)
Change in mean days absent	+.6	**+1.8*****	+.4	**+.9*****	**+.9***	+.9

Source: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

and 8 percentage points, p<.001 and p<.01). Because of the large increase in the middle income group, these students were more likely to miss 4 or more days of school in a 4-week period than students with disabilities in the highest income group (29% vs. 14%, p<.01). The average absenteeism days increased only among students in medium-income households (1.8 days, p<.001).

There were no changes over time in the attendance of Hispanic students with disabilities. In contrast, the percentage of students with perfect attendance in a 4-week period increased for both white and African-American students (15 and 14 percentage points, p<.001 and p<.05). Increases in high absenteeism were associated only with white students (12 percentage points, p<.001), which eliminated the significant gap in high absenteeism between them and Hispanic students with disabilities seen in cohort 1 (9% vs. 24%, p<.05). The average number of days absent increased by almost 1 day for white and African-American students (p<.001 and p<.05). As with high absenteeism, the increase for white students with disabilities closed the gap that existed between cohort 1 white youth and both African-American and Hispanic students (1.4 vs. 1.9 and 2.5, p<.05 and p<.001). Despite differences in the degree of change in attendance over time for students with disabilities from different racial/ethnic backgrounds, differences in their absenteeism at cohort 2 are not significant.

Academic performance. Cohort 2 students with disabilities from households at all income levels received more As than their cohort 1 peers (Exhibit 4-14), with increases ranging from 11

to 23 percentage points, p<.05 to p<.001). Students from the highest income category show the largest increase, resulting in their having a significantly higher likelihood of receiving mostly As than peers from the lowest income group (26% vs. 13%, p<.05). Students in the highest income group also are the only students to show an increase in the likelihood of receiving mostly Bs (14 percentage points, p<.05). Grade improvements for students from both the middle and highest income groups resulted from significant decreases in the likelihood that they received mostly Cs (22 and 33 percentage points, p<.01 and p<.001).

Exhibit 4-14
CHANGES IN GRADES FOR STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Medium	Highest	White	African American	Hispanic
Percentage receiving:						
Mostly As						
Cohort 1 (1985-86/1986-87)	1.7	4.3	2.6	3.4	1.6	4.3
	(1.2)	(1.7)	(1.1)	(.9)	(1.2)	(3.5)
Cohort 2 (2001-02)	13.1	16.6	25.9	19.6	18.1	15.7
	(3.9)	(4.5)	(4.5)	(2.8)	(5.6)	(6.8)
Percentage-point change	**+11.4****	**+12.3***	**+23.3*****	**+16.2*****	**+16.5****	+11.4
Mostly Bs						
Cohort 1 (1985-86/1986-87)	19.4	27.5	24.8	27.1	14.8	26.3
	(3.7)	(3.8)	(3.0)	(2.3)	(3.5)	(7.6)
Cohort 2 (2001-02)	28.6	34.7	38.6	34.9	31.0	28.6
	(5.3)	(5.7)	(5.1)	(3.3)	(6.7)	(8.5)
Percentage-point change	+9.2	+7.2	**+13.8***	+7.8	**+16.2***	+2.3
Mostly Cs						
Cohort 1 (1985-86/1986-87)	48.8	49.0	56.0	50.5	50.7	40.2
	(4.7)	(4.3)	(3.5)	(2.6)	(5.0)	(8.5)
Cohort 2 (2001-02)	34.5	26.9	23.1	27.1	26.0	40.9
	(5.6)	(5.3)	(4.4)	(3.1)	(6.4)	(9.3)
Percentage-point change	-14.3	**-22.1****	**-32.9*****	**-23.4*****	**-24.7****	+.7

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Hispanic students with disabilities did not share in the improvements in grades of students with disabilities as a whole, nor did they become more likely over time to be at the appropriate grade level for their age (Wagner, Cameto et al., 2003). However, changes in grades are noted for white and African-American students, with changes being fairly similar for the two groups. Changes in the likelihood of receiving both mostly As (16-percentage-point increases, p<.001 and p<.01) and mostly Cs are quite similar (decreases of 23 and 25 percentage points, p<.001 and p<.01). In fact, the percentages of both white and African-American students who received mostly Cs dropped by about half over time. However, only African-American students with disabilities show a significant increase in the likelihood of receiving mostly Bs (16 percentage points, p<.05), which eliminated the gap that existed between cohort 1 African-American and white students in the likelihood of receiving such grades (15% vs. 27%, p<.05). These changes in academic performance over time resulted in there being no statistically significant differences across cohort

2 racial/ethnic groups in grades received, which is consistent with their similar likelihood of being at the appropriate grade level for their age (Wagner, Cameto, et al., 2003).

School suspension. The greater likelihood of short-term suspensions that was found for students with disabilities as a whole occurred across all income groups, ranging from 6 to 10 percentage points ($p<.05$ and $p<.01$; Exhibit 4-15). However, only among students with disabilities from the lowest-income households did this change result in a significant increase in the likelihood of being suspended at all (13 percentage points, $p<.01$). With this increase, cohort 2 students with disabilities from the lowest income group were significantly more likely than those in the highest income group to be suspended from school (25% vs. 14%, $p<.05$). However, cohort 2 parents' reports of whether their adolescent children with disabilities had been fired from a job, suspended or expelled from school, or arrested show no differences for students from households with different levels of income (Wagner, Cameto, et al., 2003).

Regarding differences in school suspension across racial/ethnic groups, Hispanic students with disabilities show no significant changes over time, nor were their parents more likely to report that they had experienced negative consequences for behavior at school, on the job, or in the community (Wagner, Cameto, et al., 2003). In contrast, both white and African-American students with disabilities show significant increases in the likelihood of being suspended 1 or 2 days, the increase being more than twice as large for African-American students (14 percentage points, $p<.001$) as for white students (6 percentage points, $p<.001$). Because of the sizable increase for African-American students, cohort 2 students with disabilities in that category were much more likely than their white peers to have had short-term suspensions (17% vs. 9%, $p<.05$). Cohort 2 African Americans also were more likely than white students with disabilities to have been suspended at all (29% vs. 18%, $p<.05$), even though white students show the only significant increase in the likelihood of any suspensions over time (9 percentage points, $p<.001$), and they show the only increase in parents reporting that they had been fired from a job, suspended or expelled from school, or arrested (Wagner, Cameto, et al., 2003).

Exhibit 4-15
CHANGES IN SUSPENSIONS FOR STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Medium	Highest	White	African American	Hispanic
Percentage with any suspensions						
Cohort 1 (1985-86/1986-87)	12.3 (3.3)	14.3 (3.1)	8.1 (2.0)	9.1 (1.6)	18.5 (4.3)	20.7 (7.1)
Cohort 2 (2001-02)	24.9 (3.5)	17.8 (3.4)	14.4 (2.9)	17.8 (2.1)	28.7 (4.5)	16.7 (5.1)
Percentage-point change	**+12.6****	+3.5	+6.3	**+8.7*****	+10.2	+4.0
Percentage suspended 1 or 2 days						
Cohort 1 (1985-86/1986-87)	3.9 (2.0)	1.9 (1.2)	3.1 (1.3)	2.6 (.9)	2.9 (1.9)	6.2 (4.2)
Cohort 2 (2001-02)	13.7 (2.8)	10.1 (2.7)	9.3 (2.4)	8.9 (1.5)	17.4 (3.7)	13.1 (4.6)
Percentage-point change	**+9.8****	**+8.2****	**+6.2***	**+6.3*****	**+14.5*****	+6.9

Sources: NLTS school record abstract and NLTS2 Wave 1 student's school program survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

All income and racial/ethnic groups show increases of similar magnitude in the likelihood of attending schools with policies of arranging alternative placements and services for students with disabilities who were suspended from school.

Summary

The changes in the school participation of students with disabilities present a mixed picture of their achievements. For example, changes in student attendance are both positive and negative. There was an overall increase in the percentage of students who had perfect attendance in a 4-week period. However, this positive trend is offset by an increase in the percentage of students who were absent 4 or more days in a 4-week period, or more than 7 weeks in the school year. This change resulted in an increase of about 8 days in the average number of days absent during the school year for students with disabilities. A similar "good news, bad news" picture is apparent regarding school suspensions. The average number of days students had been suspended from school did not change over time. However, more students with disabilities experienced suspension as a consequence of inappropriate behavior at school; one-fifth of cohort 2 students with disabilities had been suspended during their school years. These measures of absenteeism and suspensions are particularly troubling for youth with emotional disturbances; one-fourth of these youth in cohort 2 missed an average of more than 7 weeks of school per year, and their suspension rate was twice to four times as high as those of youth in other disability categories.

Improvements in grades were more consistently positive. There was an overall increase in the percentage of students receiving As and Bs, a change that came largely from a reduction in the percentage of students who received mostly Cs. However, one-fifth of cohort 2 students with disabilities earned below-average grades of mostly Ds or Fs.

These patterns of change were generally stable across disability categories and demographic groups, although the exceptions to this similarity are notable. For example, there was no improvement in grades for students with mental retardation or other health impairments. Neither students with hearing impairments nor girls with disabilities show the increase in the likelihood of suspensions that occurred for males and students in other disability categories. High school seniors with disabilities are the only students not to show an increase in perfect attendance. The smallest improvements in grades and the largest increase in the likelihood of being suspended from school occurred among students with disabilities from the lowest-income households. Finally, Hispanic students show none of the changes in school participation that are apparent for white and African-American students with disabilities.

Comparisons between high school transcript data collected in subsequent waves of NLTS2 with those collected in wave 2 of NLTS will permit a more detailed analysis of school attendance, academic performance, and school suspensions.