

5. THE SOCIAL ADJUSTMENT OF YOUTH WITH DISABILITIES

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Adolescence is a time of dramatic physical, cognitive, emotional, and social change. In the fluid environment created by such changes, youth attempt to establish a sense of their own identity, independent of others (Erikson, 1968). Throughout this process, youth often experiment with alternative identities, roles, and behaviors as they probe the limits of acceptable behavior. That experimentation takes place at the same time that peer relationships become more complex and adult expectations regarding responsible behavior increase.

Although this is a turbulent time for most youth, the majority pass through the transition from middle childhood to young adulthood without serious incident. They establish healthy relationships, find socially acceptable ways to engage in activities that interest them, and make their way through school. However, a number of adolescents experience more challenges than their peers. An inability to “fit in” can trigger behavior problems that cause significant difficulty for both youth themselves and those around them, with repercussions such as suspensions or expulsions from school or arrests. At the extreme, poor social adjustment can result in self-injury or suicide, the third leading cause of death among adolescents (Centers for Disease Control and Prevention, 2002).

Many youth with disabilities encounter additional hurdles that complicate the already difficult time of adolescent transition. At a time when being like their peers is a high priority, many disabilities set youth apart in the ways they look, learn, or interact with others, presenting additional challenges to positive social adjustment. Some kinds of disabilities—particularly emotional disturbances, attention deficit or attention deficit/hyperactivity disorder (ADD/ADHD), and autism—are most directly associated with social adjustment difficulties. Because of the increased challenges of disabilities and their implications, youth with disabilities face a greater risk than their peers without disabilities for poor outcomes.

Special education services provided to youth with disabilities can address the behavioral issues that challenge their positive social adjustment. In fact, the Individuals with Disabilities Education Act Amendments of 1997 require the team that plans a student’s individualized education program (IEP) to consider, if appropriate, strategies to address behavior that impedes a student’s learning or that of others [Sec. 614(d)(3)(B)(i)]. Students receiving special education include a disproportionate number at high risk for delays or difficulties in social development, and it is these students who are most likely to be targeted for positive behavioral supports as part of the IEP or behavioral intervention plan.

To help strengthen such supports and target them effectively to youth who can benefit from them most, it is important to have a clear picture both of how youth with disabilities fare in regard to the complex construct of social adjustment and of the factors that are associated with more positive adjustment. This chapter examines the social adjustment of youth with disabilities in terms of their general social skills and their adjustment in the classroom and outside of school. First, multiple indicators of the social adjustment of all youth with disabilities are described and the relationships among them identified. Next, variations in social adjustment across the disability categories are presented. Finally, findings from multivariate analyses highlight the

associations between individual characteristics, family characteristics, school program and experiences, and services with social adjustment.

Dimensions of Social Adjustment of Youth with Disabilities

General Social Skills

Whereas some social behaviors are specific to a particular setting, such as the classroom, others are used in such a wide variety of situations that they signal general social competence. It is well established that such general competence is a key factor in school engagement and academic success (Cairns & Cairns, 1994; Coie, 1990; Dodge, 1990). With its broad array of items, the Social Skills Rating System (SSRS; Gresham & Elliot, 1990) is a widely accepted tool for measuring general social skills.

Using items from the SSRS, parents of youth with disabilities were asked to report how often their sons or daughters demonstrate each of the following nine aspects of social competence:

- Makes friends easily.
- Starts conversations rather than waiting for others to start.
- Seems confident in social situations, such as parties or group outings.
- Joins group activities, such as a group having lunch together, without being told to do so.
- Speaks in an appropriate tone at home.
- Avoids situations that are likely to result in trouble.
- Controls his or her temper when arguing with peers other than siblings.
- Ends disagreements with parent calmly.
- Receives criticism well.

Possible responses were “never,” “sometimes,” or “very often.”

Youth with disabilities show quite varied competence across the dimensions listed above (Exhibit 5-1). With the exception of receiving criticism well, between one-third and more than half of youth engage in each type of social skill measured “very often.” The skills at which they tend to be most adept are making friends, speaking in an appropriate tone at home, and avoiding situations that are likely to result in trouble. Approximately half of youth are reported to do each of these “very often.” Approximately 40% of youth are reported to start conversations rather than waiting for others to start them, to control their tempers when arguing with peers, or to feel confident in social situations “very often.” About one-third are reported “very often” to join group activities without being told to do so or to end disagreements calmly.

Although the percentages of youth who frequently engage in these activities may be heartening, it also is important to consider how many youth never do so. Here, youth also show considerable range across the various dimensions. For example, according to parents’ reports, approximately one-tenth of youth never start conversations, never avoid situations that are likely to result in trouble, or never control their temper when arguing with peers. In addition, 16% never end disagreements with their parents calmly or feel confident in social situations, and 22% never join group activities without being told to do so.

Exhibit 5-1
SOCIAL SKILLS OF YOUTH WITH DISABILITIES AND
YOUTH IN THE GENERAL POPULATION

Percentage of youth with frequency of activity	Youth with Disabilities ^a		Youth in the General Population ^b	
	Never	Very Often	Never	Very Often
Makes friends easily	8.6 (.9)	53.8 (1.6)	2.9 (1.3)	56.9 (3.8)
Starts conversations rather than waiting for others to start	11.4 (1.0)	42.3 (1.6)	12.6 (2.5)	32.8 (3.6)
Joins group activities, such as a group having lunch together, without being told to do so	22.0 (1.3)	34.8 (1.5)	12.1 (2.5)	44.3 (3.8)
Speaks in an appropriate tone at home	4.3 (.6)	52.0 (1.6)	.6 (.6)	50.6 (3.8)
Avoids situations that are likely to result in trouble	11.6 (1.0)	48.4 (1.6)	2.3 (1.1)	53.5 (3.8)
Controls his or her temper when arguing with peers other than siblings	12.5 (1.1)	38.8 (1.5)	9.2 (2.2)	35.1 (3.6)
Ends disagreements with parent calmly	16.1 (1.2)	34.1 (1.5)	7.5 (2.0)	38.5 (3.7)
Receives criticism well	27.3 (1.4)	16.7 (1.2)	14.4 (2.7)	20.7 (3.1)
Seems confident in social situations, such as parties or group outings	15.6 (1.1)	38.7 (1.5)	.0	62.1 (3.7)
Overall scale	Mean = 20.3		Mean = 21.3	

^a Source: NLTS2 Wave 1 parent interviews.

^b Source: American Guidance Service Social Skills Rating System national norms data, standardized in spring 1998.

Standard errors are in parentheses.

Of the various skills measured, receiving criticism appears to be particularly problematic; only 17% are reported to receive criticism well “very often,” and more than one-fourth (27%) are reported “never” to receive criticism well.

When parents’ ratings of youth with disabilities are compared with national norms on these items, it is clear that youth with disabilities are generally less skilled socially than their peers in the general population. With the exception of starting conversations and controlling their tempers, according to parents, youth with disabilities are significantly more likely than youth in the general population never to demonstrate each aspect of social competence. For example, whereas 3% of youth in the general population never make friends easily, 9% of youth with disabilities never do so ($p < .001$). Similarly, all youth in the general population are reported to be confident in social situations at least sometimes, whereas 16% of youth with disabilities are reported never to be confident in social situations. On the other hand, youth with disabilities outperform youth in the general population in regard to one social skill; despite their lower level of social confidence, according to parents, youth with disabilities are more likely than youth in the general population very often to start conversations with others (42% vs. 33%, $p < .05$).

An overall measure of general social skills was created by summing all nine items, yielding scores that range from 9 (parents indicated “never” to all items) to 27 (parents indicated “very often” to all items). Throughout the rest of this chapter, this scale is referred to as the “social

skills scale.” The mean score for youth with disabilities on the scale is 20.3; for students in the general population, the mean is significantly higher at 21.3.

Social Adjustment at School

The behavior of youth at school is a crucial element in their overall social adjustment. Not only is school the context in which many youth spend most of their day, it also is where they engage in the important activities of gaining academic knowledge; learning and practicing more generalized skills, such as problem solving, being on time, and following directions; and developing formative relationships with peers and adults. Further, the consequences of their behavior at school can be powerful. As noted earlier, students’ inappropriate behavior at school can distract both the students themselves and those around them from their learning tasks. In addition, research has shown that teachers’ evaluation of students’ academic performance is influenced by the students’ behavior in the classroom (Polloway et al., 1994).

NLTS2 is investigating five aspects of the social adjustment of youth with disabilities at school: their behaviors in the classroom, their ability to get along with teachers and other students, their involvement with bullying at school, the extent to which they have been the subject of disciplinary actions for unacceptable behavior at school, and their progress toward transition goals related to their social adjustment.

Classroom social behaviors. To elicit information about youth’s social behavior in the classroom, NLTS2 asked teachers or school staff¹ the extent to which youth do the following:

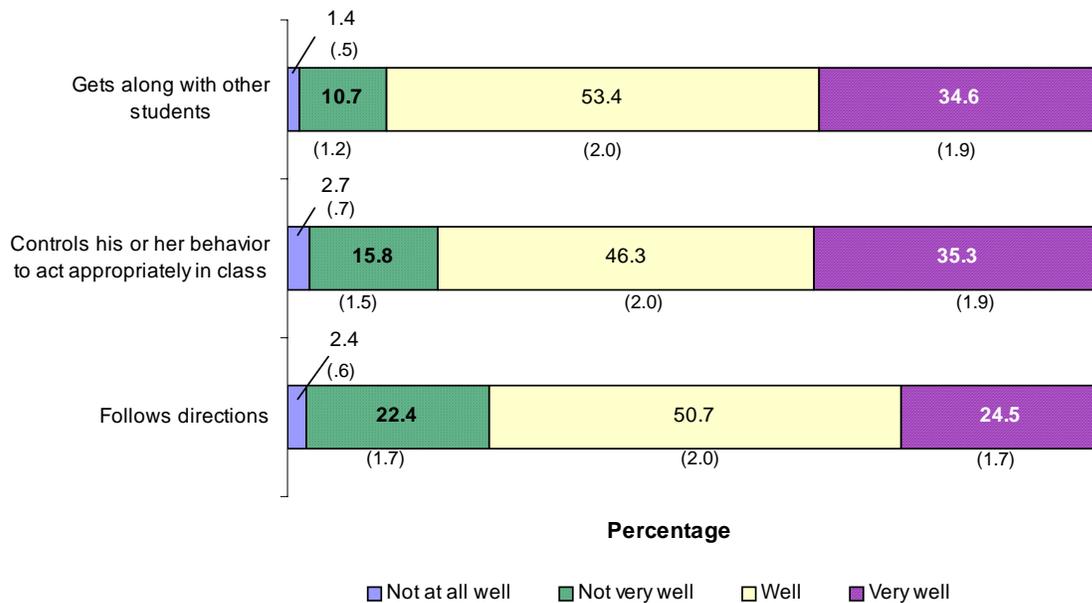
- Get along well with other students in the classroom.
- Follow directions.
- Control their behavior to act appropriately in class.

According to teachers and other school staff, about one-third of students with disabilities get along “very well” with other students (Exhibit 5-2), and another half get along “well.” A similar percentage control their behavior “very well,” and slightly fewer control their behavior “well.” However, almost one in five students with disabilities control their behavior “not very well” or “not at all well.” Somewhat more youth appear to have difficulty following directions; school staff report that one-fourth do so “very well,” and a similar percentage follow directions “not very well” or “not at all well.”

As an overall measure of classroom behaviors, a scale was created by summing the answers to the three questions. Throughout the rest of this chapter, this scale is referred to as the “classroom social behavior scale.” The scale ranges from 3 (does all of the behaviors “not at all well”) to 12 (does all of the behaviors “very well”). The mean score for youth with disabilities on this scale is 9.2.

¹ See Chapter 1 for how decisions were made about the best respondent to these questions.

**Exhibit 5-2
CLASSROOM SOCIAL BEHAVIORS OF YOUTH WITH DISABILITIES**



Source: NLTS2 Wave 1 teacher and school program surveys.
Standard errors are in parentheses.

Parents’ perspectives on students’ social adjustment at school. To provide another perspective on students’ social adjustment at school, parents were asked how well their son or daughter gets along with other students and with teachers. Their reports indicate that youth get along about equally well with teachers and students. Almost half (47%) reportedly get along very well with teachers, and 46% get along very well with other students. Another 36% and 38% are reported to get along “pretty well” with teachers and students, respectively. The 84% of youth reported by parents to get along very well or pretty well with other students closely parallels the 88% of youth reported by teachers to get along very well or well with other students.

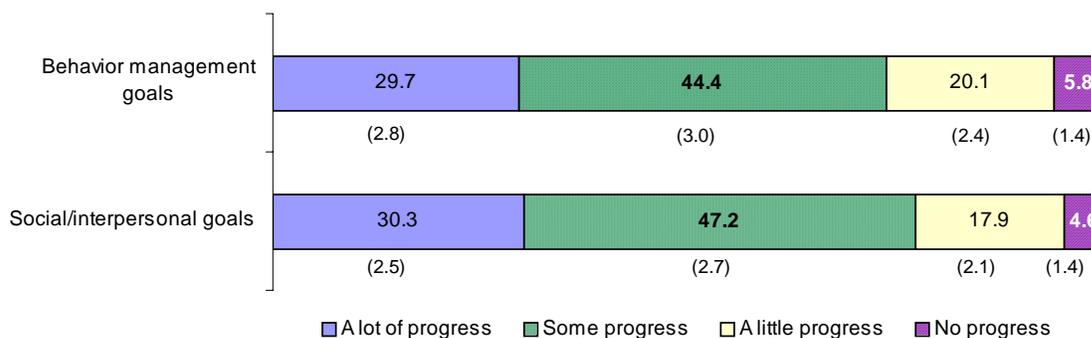
Problem behaviors at school. Although most youth with disabilities are reported to be getting along well at school, some exhibit problem behaviors. One such behavior involves bullying other students. Parents of youth with disabilities were asked whether their son or daughter had bullied or picked on other youth at school during the current school year; 16% reportedly had done so. In addition, school staff were asked whether youth had been suspended, expelled, or involved in any other type of disciplinary action, such as a referral to the office or detention, during the current school year. More than one-third of youth with disabilities (35%) have been involved in some type of disciplinary action in a school year.

Progress toward transition goals related to social adjustment. Youth’s social adjustment is not static. A variety of programs and services inside and outside of school can help youth with disabilities improve in this domain, and goals can be set as part of students’ transition plans. To measure students’ improvement, NLTS2 asked school staff to indicate the extent to

which students were making progress toward their social/interpersonal goals and their behavior management goals.²

School staff report that approximately three-fourths of youth with social adjustment transition goals are making at least “some progress” toward them (Exhibit 5-3). Indeed, 30% are reported to be making “a lot of progress.” Few youth are reported not to be making any progress at all.

**Exhibit 5-3
PROGRESS BY YOUTH WITH DISABILITIES TOWARD
TRANSITION GOALS RELATED TO SOCIAL ADJUSTMENT**



Source: NLTSS Wave 1 teacher and school program surveys.
Standard errors are in parentheses.

Social Adjustment outside of School

Although the classroom is an important setting for youth, social activities outside of school also are crucial to their development. For many years, theory and research (e.g., Bronfenbrenner, 1979) have supported the important role of social interactions with peers, friends, parents, siblings, relatives, and others in the dynamic process of social adaptation and change. Friendships take on particular importance during adolescence, when teens detach themselves in some ways from their families (Raffaelli & Duckett, 1989) and use peers for some types of support that previously were provided by family members (Zetlin & Murtaugh, 1988). The degree of success in forming positive peer relationships can have important implications for youth’s broader social adjustment (Bukowski, Newcomb, & Hartup, 1996; Parker & Asher, 1987).

The lives of many youth are substantially enriched by their participation in organized extracurricular groups, which are defined broadly to include adult-sanctioned organized activities that youth do outside of the classroom, whether or not they are school sponsored. The social, psychological, and educational benefits of extracurricular activities are well known. Extracurricular participation has been shown to have a beneficial effect on academic performance (e.g., Marsh, 1992; Camp, 1990) and to diminish the likelihood of students’ dropping out of school (Mahoney & Cairns, 1997).

² These questions were asked only for students with these goals in their transition plans.

Although having friends and taking part in extracurricular activities may be crucial to healthy development, some kinds of disabilities can create challenges in these areas. For example, a hearing impairment can limit interactions with those who cannot use or understand manual communication. A visual impairment can limit the kinds of activities youth can engage in with friends. Autism and some kinds of behavioral disabilities can restrict or in other ways challenge social interaction with peers.

To understand the out-of-school social activities of youth with disabilities, parents were asked whether their sons or daughters belong to any type of organized group and how often they see friends outside of school and organized groups.³

Parents report that most youth with disabilities are fairly socially engaged. Approximately two-thirds (65%) belong to some type of school or community group (Exhibit 5-4). Almost one-third get together with friends outside of organized groups four or more times a week, and approximately another third see friends once to three times a week. Eighty-six percent of youth either belong to an organized group or see friends at least once a week outside of a group; however, 14% of youth do neither.⁴

	Percentage	Standard Error
Belong to at least one school or community group	65.3	1.5
Get together with friends outside of organized groups:		
Frequently (four or more times a week)	30.5	1.5
Regularly (one to three times a week)	35.2	1.5
Occasionally (less than once a week)	24.8	1.4
Never	9.4	.9
Are socially engaged—get together with friends at least once a week or belong to at least one group	86.0	1.1

Source: NLTS2 Wave 1 parent interviews.

Youth with disabilities are about equally likely as youth in the general population to belong to groups, but less likely to get together with friends outside of groups at least weekly. Parents report that about 61% of youth in the general population belong to some type of group (National Survey of America’s Families, 1999), and approximately 93% of youth report that that they “hang out” with friends at least once a week ($p < .05$ compared with youth with disabilities; Udry, 1998).

In contrast to these aspects of social integration, some youth with disabilities exhibit behaviors that so seriously violate community norms that they become involved with the criminal justice system. To assess such

behaviors, parents of youth with disabilities were asked whether their son or daughter had ever been arrested, stayed overnight in jail, or been on probation or parole. Parents report that 13% have been arrested; this group includes 4% of youth with disabilities who have spent a night in

³ Friends may include youth both with and without disabilities.

⁴ NLTS2 findings related to the friendship interactions of youth with disabilities are reported in more detail in Cadwallader & Wagner (2003). Findings related to their extracurricular activities are reported in more detail in Cadwallader, Wagner, & Garza (2003).

jail and 8% who have been on probation or parole. The arrest rate is not significantly different from the 15% of 14- to 17-year-olds in the general population who have been arrested.⁵

Relationships among Dimensions of Social Adjustment

Although NLTS2 has investigated a variety of behaviors of youth with disabilities as they are exhibited in both school and nonschool settings, analyses demonstrate, not surprisingly, that they are interrelated measures of the broad concept of social adjustment (Exhibit 5-5). Correlations among the various indicators are modest, ranging from .01 to .39, although only one is not statistically significant with the relatively large NLTS2 sample—parents' reports of how well youth get along with teachers/students and how often youth get together with friends. In fact, the indicators of the social integration of youth outside the classroom—the frequency of their friendship interactions and whether they belong to school or community groups—are fairly weakly related both to each other (.10) and to other indicators. With the exception of their relationship to overall social skills, correlations of friendship interactions and group membership with other indicators of social adjustment are no larger than .16.

In contrast, indicators of negative social adjustment are more strongly related. Bullying, involvement with disciplinary actions, and arrests have correlations ranging from .21 to .28. Compared with youth who do not bully others, youth who do are twice as likely to be subject to disciplinary actions at school (60% vs. 29%, $p < .001$) and/or to have been arrested (17% vs. 8%, $p < .05$). In addition, more than three times as many youth who are subject to disciplinary actions have been arrested—19% compared with 5% ($p < .001$).

Although seeing friends is normally considered a positive aspect of adolescent life, frequently seeing friends is related to being the subject of disciplinary action, bullying others, and arrests (correlations between .06 and .16, $p < .0001$). Whereas approximately 28% of youth who see friends fewer than 3 days a week are involved in disciplinary actions, approximately 42% of youth who see friends more often than that have been subject to disciplinary actions ($p < .05$). Similarly, whereas approximately 6% of youth who see friends fewer than 3 days a week have been arrested, 18% of youth who see friends more often have had such criminal justice system involvement ($p < .01$).

As a measure of general social competence, it is not surprising that the social skills scale score has correlations as high as .39. General social skills are fairly highly correlated with interpersonal aspects of social adjustment, with correlations ranging from .20 for group membership to .39 for getting along with teachers and students. Correlations are lower with indicators of negative social adjustment that involve the school system: -.11 for disciplinary actions, and -.10 for arrests.

⁵ Calculated by using data from the 1999 National Longitudinal Survey of Youth (Bureau of Labor Statistics, U.S. Department of Labor).

Exhibit 5-5
CORRELATIONS AMONG INDICATORS OF
THE SOCIAL ADJUSTMENT OF YOUTH WITH DISABILITIES

	Classroom Social Behavior Scale	Gets Along with Teachers and Students	Belongs to a Group	How Often Sees Friends outside of Groups	Has Received Disciplinary Action in the Current School Year	Has Bullied Others at School	Has Been Arrested
Social skills scale score	.28 (p<.0001)	.39 (p<.0001)	.20 (p<.0001)	.27 (p<.0001)	-.11 (p<.0001)	-.22 (p<.0001)	-.10 (p<.0001)
Classroom social behavior scale score		.30 (p<.0001)	.10 (p<.0001)	.02 (.12)	-.32 (p<.0001)	-.23 (p<.0001)	-.13 (p<.0001)
Gets along with teachers and students			.10 (p<.0001)	.01 (.9042)	.31 (p<.0001)	-.37 (p<.0001)	-.24 (p<.0001)
Belongs to a group				.10 (p<.0001)	-.02 (.0483)	-.02 (.0497)	-.07 (.1167)
How often sees friends outside of groups					.16 (p<.0001)	.06 (p<.0001)	.16 (p<.0001)
Has received disciplinary action in the current school year						.28 (p<.0001)	.26 (p<.0001)
Has bullied others at school							.21 (p<.0001)

Source: NLTS2 Wave 1 parent interview, general education teacher survey, and student's school program survey.
Significance levels are in parentheses.

Another perspective on the interrelationships of general social competence with these aspects of social adjustment is provided by examining the profiles of youth with high and low social skills scale scores (Exhibit 5-6). Youth rated with high social skills have more positive social adjustment than lower-scoring youth on all indicators investigated in NLTS2. For example, 41% of youth with high social skills have high classroom social behavior scale scores, compared with 22% of those with medium social skills scores and 11% of those with low scores (p<.05 and p<.001). Among youth with high social skills, 79% belong to groups and 74% see friends at least weekly, compared with 52% and 54%, respectively, of low-scoring youth (p<.001 and p<.01). There also are striking differences between youth with different levels of social skills in terms of their likelihood of getting into trouble. Whereas 17% of youth with high social skills have been subject to a disciplinary action at school and 5% have been arrested, 40% of youth with low social skills have received a disciplinary action and 20% have been arrested (p<.001).

**Exhibit 5-6
RELATIONSHIP OF SOCIAL SKILLS TO OTHER
INDICATORS OF SOCIAL ADJUSTMENT AMONG
YOUTH WITH DISABILITIES**

	Social Skills Rated as:		
	Low	Medium	High
Percentage with classroom social behaviors rated:			
Low	20.3 (3.3)	14.1 (1.9)	6.8 (3.6)
High	11.0 (2.5)	22.3 (2.3)	40.7 (7.1)
How well youth get along with others			
Not well	17.1 (2.2)	1.9 (.6)	.1 (.4)
Well or very well	52.5 (2.9)	83.5 (1.5)	94.9 (2.4)
Percentage who:			
Belong to a group	52.1 (2.8)	69.3 (1.9)	79.1 (4.4)
See friends outside of groups at least weekly	54.1 (4.1)	69.6 (2.6)	74.0 (6.4)
Bully others	31.5 (2.7)	12.8 (1.4)	2.8 (1.8)
Have been the subject of a disciplinary action at school in the last year	39.9 (2.8)	28.6 (1.9)	16.7 (4.0)
Have been involved with the criminal justice system	20.1 (2.3)	11.4 (1.3)	4.6 (2.3)

Source: NLTS2 Wave 1 parent survey.
Standard errors are in parentheses.

Disability Differences in Social Adjustment

Clearly, differences in disabilities are associated with differences in social adjustment. Youth with learning disabilities or speech, hearing, visual impairments, or orthopedic impairments tend to excel, relative to other groups, on several measures of positive social adjustment (Exhibit 5-7). Between 77% and 82% score high or medium on the social skills scale, between 34% and 48% have high classroom social behavior scale scores, and at least 65% of youth in these categories belong to at least one social or community group. Youth with learning disabilities or speech impairments are among the most likely youth to see friends often; at least 68% do so.

However, these groups of youth do not form a single cluster with regard to negative social adjustment indicators. Whereas youth with visual or orthopedic impairments

are among the least likely to be involved with bullying, disciplinary actions at school, or to be arrested, youth with learning disabilities or speech or hearing impairments are more like other categories of youth on these measures. Nevertheless, all of these groups of youth are among the most likely to be reported as making progress toward their social/interpersonal goals, and youth with visual impairments are particularly likely to be making “a lot of progress” toward their behavior management goals.

At the other end of the spectrum are youth with emotional disturbances, autism, or multiple disabilities, who have the lowest levels of social skills and the poorest behavior in the classroom. Approximately 40% of youth with emotional disturbances or multiple disabilities, and almost 60% of youth with autism score low on the social skills scale. Thirty-six percent of youth with emotional disturbances and approximately 27% of youth with autism or multiple disabilities score low on the classroom social behavior scale.

On other dimensions of social adjustment, however, youth with autism or multiple disabilities differ from youth with emotional disturbances. Youth with autism are less social, being among the least likely of all youth to see friends or belong to groups, but they also are not particularly likely to get into trouble in school or with the criminal justice system. They also are

Exhibit 5-7
SOCIAL ADJUSTMENT OF YOUTH, BY DISABILITY CATEGORY

	Learning Disabilities	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 whose social skills scale score is: ^a												
High	10.2 (1.5)	12.6 (1.6)	4.1 (1.0)	2.8 (.9)	16.6 (2.1)	14.3 (2.5)	14.0 (1.9)	8.5 (1.3)	3.1 (0.9)	7.2 (2.4)	7.2 (1.4)	7.5 (2.7)
Low	22.8 (2.1)	20.0 (2.0)	33.9 (2.4)	40.8 (2.5)	19.2 (2.3)	17.6 (2.7)	20.2 (2.2)	29.8 (2.2)	57.7 (2.7)	30.5 (4.2)	37.1 (2.7)	35.1 (4.9)
Percentage whose classroom social behavior scale score is: ^a												
High	34.5 (3.1)	40.9 (3.5)	22.5 (2.8)	7.4 (2.2)	46.3 (3.9)	47.5 (4.6)	38.0 (3.6)	19.0 (2.4)	16.0 (2.7)	22.1 (5.1)	17.2 (2.9)	26.0 (5.9)
Low	9.7 (1.9)	9.4 (2.1)	20.8 (2.7)	36.0 (4.1)	8.8 (2.2)	9.4 (2.7)	11.2 (2.3)	22.4 (2.6)	27.9 (3.3)	20.9 (5.0)	27.3 (3.4)	14.2 (4.7)
Percentage who:												
Belong to a group	69.3 (3.1)	71.6 (3.1)	59.7 (3.4)	63.4 (4.1)	77.5 (3.4)	67.2 (4.6)	64.7 (3.4)	72.2 (2.9)	59.1 (3.4)	64.8 (5.9)	60.3 (3.8)	62.0 (6.2)
Get together with friends outside of groups weekly	69.7 (2.3)	68.4 (2.3)	53.9 (2.6)	66.0 (2.5)	59.5 (2.9)	52.8 (3.5)	46.4 (2.8)	66.5 (2.3)	24.3 (2.3)	62.6 (4.4)	37.8 (2.7)	37.9 (5.2)
Belong to a group or get together with friends at least once a week	87.5 (1.6)	89.3 (1.5)	79.6 (2.0)	85.9 (1.8)	87.3 (1.9)	81.7 (2.7)	79.4 (2.2)	90.3 (1.4)	63.8 (2.6)	84.7 (3.3)	74.1 (2.4)	73.0 (4.6)
Have bullied others	13.5 (1.7)	8.9 (1.4)	17.6 (2.0)	36.3 (2.6)	11.0 (1.8)	5.4 (1.6)	8.9 (1.6)	19.7 (1.9)	14.2 (1.9)	15.1 (3.3)	13.7 (1.9)	13.8 (3.7)
Have been subject to disciplinary action at school	32.1 (2.9)	22.4 (2.7)	33.7 (3.1)	64.3 (3.9)	25.0 (3.3)	15.5 (3.4)	15.9 (2.5)	39.1 (3.0)	15.0 (2.4)	32.0 (5.5)	20.4 (3.0)	25.8 (5.5)
Have been arrested	11.5 (1.6)	4.6 (1.1)	7.1 (1.3)	34.8 (2.5)	4.8 (1.2)	2.0 (1.0)	3.6 (1.0)	13.9 (1.7)	2.1 (0.8)	10.5 (2.8)	5.2 (1.2)	3.1 (1.8)
Percentage with progress toward interpersonal/ social goals ^b												
A lot of progress	34.7 (4.3)	34.8 (5.3)	22.9 (3.2)	25.3 (4.1)	35.9 (5.4)	32.2 (6.2)	30.7 (4.4)	25.7 (3.7)	18.8 (3.1)	25.4 (7.1)	19.4 (3.7)	16.6 (6.0)
No progress	3.0 (1.6)	4.2 (2.2)	4.8 (1.7)	9.6 (2.8)	.4 (.7)	3.8 (2.6)	3.2 (1.7)	6.8 (2.1)	2.8 (1.3)	3.8 (3.1)	6.6 (2.3)	.0 (.0)
Percentage with progress toward behavior management goals ^b												
A lot of progress	30.3 (4.8)	29.8 (6.1)	27.6 (4.0)	33.3 (4.5)	28.6 (6.1)	35.7 (7.1)	26.0 (6.0)	22.8 (3.9)	21.5 (3.5)	23.7 (7.7)	16.5 (4.1)	19.2 (7.5)
No progress	3.9 (2.0)	5.7 (3.1)	7.3 (2.3)	10.0 (2.8)	3.6 (2.5)	3.2 (2.6)	5.0 (3.0)	6.6 (2.3)	3.8 (1.6)	4.3 (3.7)	9.1 (3.2)	2.5 (3.0)

Sources: Social skills, belonging to groups, seeing friends, bullying others: NLTS2 Wave 1 parent interviews. Disciplinary actions, progress toward transition goals: NLTS2 Wave 2 school program survey.

^a The category "medium" is omitted from the exhibit.

^b The category "some progress" is omitted from the exhibit.

Standard errors are in parentheses.

among the least likely youth to be making a lot of progress toward their social/interpersonal goals or their behavior management goals. In contrast, youth with emotional disturbances are among the most likely of all youth to get together informally with friends at least once a week and to be making a lot of progress toward their behavior management goals. Where they stand out the most from other youth is that almost two-thirds of them have been subject to disciplinary actions at school, and approximately 35% have been arrested.

Factors Related to Social Adjustment

Analyses presented thus far have demonstrated that the majority of youth with disabilities are relatively well adjusted socially—many are rated by parents as having high social skills, most behave reasonably well in class, and the majority see friends regularly and belong to organized groups in which they can build relationships and pursue their interests. Relatively few demonstrate negative social adjustment. However, there are dramatic differences in the social adjustment of youth with different primary disability classifications. Clearly, though, much more is involved in understanding variations in the social adjustment of youth with disabilities than is apparent from these disability category differences. What other factors are related to social adjustment, and how does the association of disability and social adjustment change when other factors are taken into account?

To answer these questions, multivariate analyses were used to examine the relationships between selected indicators of social adjustment and characteristics of youth themselves, their families, and their school programs and experiences. Multivariate analyses identify the independent relationship to social adjustment of each factor in the analysis, holding constant the effects of all other factors. Four indicators of social adjustment are used: two indicators of positive social adjustment—seeing friends at least weekly and belonging to groups—and two indicators of negative social adjustment—disciplinary actions at school and arrests.

Individual Characteristics

Disability characteristics. These factors include the primary disability category of youth, whether they have ADD/ADHD as a primary or secondary disability, the age at which youth first were diagnosed with a disability or learning problem, and the number of functional domains in which youth experience some limitation. When other factors in the analysis are held constant, relationships between disability and social adjustment are weaker for the most part than in bivariate analyses (Exhibit 5-8). Nevertheless, there still are important relationships.

Consistent with the bivariate analyses presented earlier, multivariate analyses show that youth with emotional disturbances are the most likely to get into trouble. Holding constant other factors, they are 20 percentage points more likely than youth with learning disabilities to be subject to disciplinary actions at school and are 5 percentage points more likely to be arrested. Multivariate analyses also confirm the poor social integration of youth with autism and bring to the fore the relative lack of social integration of youth with orthopedic impairments. Compared with youth with learning disabilities, youth with autism are 8 percentage points less likely to belong to a group and 30 percentage points less likely to see friends at least weekly outside of school and group activities, and youth with orthopedic impairments are 10 percentage points less likely to belong to a group and 12 percentage points less likely to see friends informally at least weekly.

On the other hand, findings from multivariate analyses for youth in other categories differ somewhat from those reported earlier when disability category differences alone were examined. For example, multivariate analyses confirm the findings from bivariate analyses that youth with hearing impairments are more likely than youth with learning disabilities to belong to groups, but they also show that youth with hearing impairments are more likely to be subject to disciplinary actions at school. Similarly, multivariate and bivariate analyses both show that youth with visual impairments are about as likely as youth with learning disabilities to belong to groups and are less likely to be arrested; however, multivariate analyses show no difference between the two groups of youth in terms of seeing friends often or being subject to disciplinary action at school.

Three other disability characteristics also have significant relationships with social adjustment. Independent of their primary disability category, youth with ADD/ADHD are more likely than youth without it to be subject to disciplinary actions at school, as are youth who were older when their disabilities first were identified. However, youth who were older when their disabilities were identified are more likely than others to see friends at least weekly. In contrast, youth whose disabilities affect more functional domains are less likely to see friends regularly and are less likely to have been arrested.

Functioning. One might expect higher functioning to be associated with more positive social adjustment, and this expectation is borne out regarding the relationships of social skills to all four measures of social adjustment; those with higher skills have a higher likelihood of positive adjustment and a lower likelihood of negative adjustment. Youth with high scores on the social skills scale are 25 percentage points more likely than youth with low scores to see friends outside of groups at least weekly, 11 points more likely to belong to groups, 9 points less likely to have been subject to disciplinary action at school in a given year, and 2 points less likely to have been arrested. However, the relationships to social adjustment of other measures of functioning are less consistent in direction. For example, as expected, the higher the functional cognitive skills of youth, the more likely they are to see friends at least weekly, and the greater a youth's self-care skills, the higher his or her probability of belonging to groups. But higher self-care and cognitive functioning also are associated with a higher likelihood of being subject to disciplinary action at school, and higher functional cognitive skills also are related to a higher likelihood of having been arrested.

Demographic characteristics. Age is related to two aspects of social adjustment, but in opposite directions. Holding constant other factors, as youth get older, they are less likely to be subject to disciplinary actions at school but more likely to have been arrested. Boys and girls, once again, follow the pattern that youth who are most likely to see friends outside of groups at least weekly (boys) also are more likely to get into trouble in school and outside of school.

Regarding racial/ethnic background, African-American and Hispanic youth differ somewhat in their patterns of social adjustment. Hispanic youth are much less likely than white youth (16 percentage points) to belong to groups, but there is no difference in this regard between African-American youth and white youth. On the other hand, African-American youth are more likely, and Hispanic youth less likely, than white youth to be subject to disciplinary actions at school. Neither group differs significantly from white youth in their probability of seeing friends regularly or being arrested, other factors held constant.

**Exhibit 5-8
DIFFERENCES IN SOCIAL ADJUSTMENT
ASSOCIATED WITH INDIVIDUAL CHARACTERISTICS OF YOUTH WITH DISABILITIES^a**

Estimated Difference in Probability of:

Disability category	Belonging to a Group	Seeing Friends Outside of Groups at Least Weekly	Receiving Disciplinary Action at School	Having Been Arrested	For Increment
Speech/language impairment	2.9	-3.0	-1.4	-1.4	vs. learning disability ^b
Mental retardation	-.6	-3.4	2.6	-1.8	vs. learning disability
Emotional disturbance	-1.1	-7.8	20.1***	4.7**	vs. learning disability
Hearing impairment	9.7**	-5.4	7.5*	-1.0	vs. learning disability
Visual impairment	2.9	-4.4	-1.4	-3.0*	vs. learning disability
Orthopedic impairment	-9.7*	-11.8**	-4.4	-2.6*	vs. learning disability
Other health impairment	-2.6	-4.0	1.9	.5	vs. learning disability
Autism	-8.1*	-29.3***	-11.6**	-3.4*	vs. learning disability
Traumatic brain injury	2.6	.6	-2.3	.3	vs. learning disability
Multiple disabilities/deaf-blindness	-.7	-9.6*	2.2	.0	vs. learning disability
ADD/ADHD ^c	5.2**	2.7	10.6**	1.1*	Yes vs. no
Age at diagnosis	-1.1	3.1**	4.3**	.3	8 years old vs. 4 years old
Number of domains in which a youth has limitations	2.1	-6.1***	-1.2	-9**	Three domains vs. one
Functioning					
Self-care skills	7.0*	3.5	13.4***	1.4	High score (8) vs. low (4)
Functional cognitive skills	2.0	12.5***	13.7***	2.4**	High score (15) vs. low (7)
Social skills	11.4***	25.0***	-9.0**	-2.5***	High score (27) vs. low (17)
Demographic characteristics					
Age	-1.6	-2.1	-8.7***	1.3**	17 years old vs. 14 years old
Gender	-2.1	8.3***	10.8***	2.2***	Male vs. female
African American	.9	4.7	5.4*	.1	vs. white
Hispanic	-15.5***	-5.7	-8.8**	-.2	vs. white
Other or multiple race/ethnicity	-2.3	-.5	-6.9	.3	vs. white
Primarily language other than English spoken at home	-.7	-1.5	4.5	-.8	Yes vs. no

^a Statistics in this exhibit are calculated from models that included all individual characteristics shown in this exhibit, as well as household characteristics (results shown in Exhibit 5-9), and school programs and experiences (results shown in Exhibit 5-10).

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

^c ADD/ADHD is included to determine its relationships as a primary or secondary disability to academic performance, independent of youth' primary disability category.

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

Exhibit reads: The probability of belonging to a group is 10 percentage points higher for youth with hearing impairments than for youth with learning disabilities, other factors being equal. The probability of being subject to disciplinary action at school is 13 percentage points higher for youth with high self-care skills than for youth with low self-care skills.

Household Characteristics

Family characteristics have strong associations with a youth's social adjustment (Exhibit 5-9). Income is related in opposite directions to the two measures of positive social adjustment. The higher a youth's household income, the more likely he or she is to belong to groups, but the less likely he or she is to see friends at least weekly outside of groups. The relationship of household income with measures of negative social adjustment is more consistent; youth from more affluent families are less likely to be involved with disciplinary actions at school and to have been arrested.

The importance of family involvement and support for their children is confirmed in these analyses. Family involvement at school is associated positively with both measures of social integration, with a particularly strong relationship to the likelihood of youth belonging to groups (many of which are at school). Youth whose families expect them to go to college are more likely to belong to groups and to see friends informally at least weekly, and are less likely to be subject to disciplinary actions at school.

Exhibit 5-9 DIFFERENCES IN SOCIAL ADJUSTMENT ASSOCIATED WITH HOUSEHOLD CHARACTERISTICS OF YOUTH WITH DISABILITIES^a

	Estimated Difference in Probability of:				For Increment
	Belonging to a Group	Seeing Friends outside of Groups at Least Weekly	Receiving Disciplinary Action at School	Having Been Arrested	
Household income	6.7***	-6.1***	-4.5**	-1.2**	\$55,000-\$60,000 vs. \$20,000-\$24,000
Family is involved at youth's school	20.3***	4.3**	-1.0	-0.2	High (6) vs. low (1)
Family expects youth to attend postsecondary school	4.7*	4.4*	-4.1*	-0.5	Definitely will vs. probably won't

^a Statistics in this exhibit are calculated from models that included the family characteristics shown in this exhibit, as well as individual characteristics (results shown in Exhibit 5-8), and school programs and experiences (results shown in Exhibit 5-10)

*p<.05, **p<.01, ***p<.001.

Exhibit reads: The probability of belonging to a group is 7 percentage points higher for a youth whose household income is \$55,000 to \$60,000 than for a youth whose household income is \$20,000 to \$24,000. The probability of receiving a disciplinary action is 13 percentage points lower for youth whose families indicate that they definitely will attend postsecondary school than for youth whose families indicate that they probably won't.

School Programs and Experiences

School programs and experiences also have strong associations with social adjustment. Here, the negative impacts of school mobility are apparent. The more times a youth has changed schools other than because of grade promotions, the less likely he or she is to belong to groups, and the more likely he or she is to be subject to disciplinary actions and to have been arrested (Exhibit 5-10). School performance also relates to social adjustment; compared with a youth who gets mostly C and D grades, a youth who gets mostly As and Bs is 12 percentage points less likely to be subject to disciplinary action at school. Not surprisingly, high grades also are

associated with a decreased probability of arrests. Relationships with positive social adjustment are mixed; whereas better grades increase a youth’s likelihood of belonging to a group, they strongly decrease his or her likelihood of seeing friends at least weekly outside of groups.

Being included in general education classes also is related in desirable ways to the social adjustment of youth with disabilities. Independent of the nature of his or her disability, level of functioning, and demographic characteristics, the greater proportion of courses a student takes in general education classes, the more likely he or she is to belong to groups and the less likely he or she is to be subject to disciplinary actions. Compared with a youth who takes 25% of his or her courses in general education classes, a youth who takes 75% of courses there is 8 percentage points less likely to be subject to disciplinary action and 4 percentage points more likely to belong to groups.

Exhibit 5-10
DIFFERENCES IN SOCIAL ADJUSTMENT ASSOCIATED WITH
SCHOOL PROGRAMS AND EXPERIENCE OF YOUTH WITH DISABILITIES^a

	Estimated Change in Probability of:				For Increment
	Belonging to a Group	Seeing Friends outside of Groups at Least Weekly	Receiving Disciplinary Action at School	Having Been Arrested	
School mobility	-4.6*	.7	4.3*	1.8***	Changed schools 3 times vs. not at all, except for promotions
Percentage of classes that are general academic education classes	3.6**	-2.7	-7.5***	-.5	75% vs. 25%
Overall grades	8.2**	-18.7***	-11.7***	-1.3***	Mostly As and Bs vs. mostly Cs and Ds
Receive mental health services ^b	2.0	3.2	6.0	2.9***	Yes vs. no
Receive social work services	-.0	5.4*	3.3	2.0***	Yes vs. no
Had a behavior management plan	-1.2	2.3	27.7***	1.1	Yes vs. no
Take part in an anger management program	3.3	1.7	9.1***	.7	Yes vs. no
Have services from a behavioral interventionist	1.5	3.9	27.7***	2.7***	Yes vs. no

^a Statistics shown are calculated from models estimated with the school programs and experiences shown in this exhibit, as well as individual characteristics (results shown in Exhibit 5-8), and household characteristics (results shown in Exhibit 5-9). Numbers shown for school mobility, percentage general education academic classes, and overall grades are from models estimated without the variables for programs and services. When models were estimated with each program or service, coefficients did not change significantly.

^b Each program or service was entered separately into a model containing school mobility, percentage general education academic classes, and overall grades, as well as all variables shown in Exhibits 5-8 and 5-9. Programs and services were not entered simultaneously because of moderate to high intercorrelations.

*p<.05, **p<.01, ***p<.001.

Exhibit reads: The probability of belonging to a group is 5 percentage points lower for youth who changed schools 3 times, except for promotions, than for youth who did not change schools at all, except for promotions. The probability of being subject to a disciplinary action at school is 12 percentage points lower for youth whose who get mostly As and Bs than for youth who get mostly Cs and Ds.

When youth have difficulties in social adjustment, schools and parents may seek to help through a variety of types of programs and/or services. Among those investigated in NLTS2 are mental health services; social work services; behavior management programs; services from a behavioral interventionist; and a conflict resolution, anger management, or violence prevention program. To investigate the extent to which each of these types of supports is associated with better social adjustment, each type was included separately in analyses that included all of the other factors discussed thus far.

These analyses suggest that most services in Exhibit 5-10 are not significantly associated with the two measures of positive social adjustment. The exception is that social work services are associated with a higher likelihood of youth's seeing friends at least weekly. However, all types of programs and services are associated with higher probabilities of the two negative measures of social adjustment, and in some cases, these associations are quite strong. For example, youth who have behavior management plans are almost 30 percentage points more likely to be subject to disciplinary actions at school; in fact, however, it well may be that having disciplinary problems at school results in youth's having such plans or participating in some of the programs investigated in NLTS2.

This likely confounding of receipt of services and social adjustment outcomes may relate to the fact that these analyses are based on cross-sectional data; that is, data are reported at one point in time. Therefore, it is highly likely that service receipt does not increase a youth's probability of getting in trouble at school or in the community, but that youth who get in trouble are much more likely than other youth to receive these types of services. Using longitudinal data, NLTS2 will be able to disentangle this phenomenon in future reports.

How Much Is Explained?

The multivariate analyses are helpful in explaining associations of various factors with measures of social adjustment, holding all other factors constant, and they explain a significant portion of variation in each social adjustment measure. Because logistic regression analyses do not produce the typical measure of explained variation (r^2), an alternative statistic was calculated that indicates the "predictive improvement," or PI, that can be obtained by adding an independent variable to a logistic regression. Across the full models, PI values range from .13 to .17.⁶ Individual characteristics are by far the strongest predictors of the various measures of social adjustment, with the exception of belonging to groups, accounting for almost all of the predictive power of the model for whether a youth sees friends frequently and three-fourths of the predictive power of the model for whether a youth has had disciplinary actions at school. In contrast, individual characteristics account for only approximately 60% of the model's power to predict whether or not a youth belongs to groups. Family characteristics increase the PI value of this model from .08 to .15.

Variables for school programs and experiences add predictive power only to the probability of being subject to a disciplinary action at school, increasing the PI value from .14 to .17. They do not contribute to the model of seeing friends, and they somewhat decrease the predictive power of the models related to whether youth belong to groups or have been arrested. The

⁶ PI values range from 0 to 1 in a similar way to a conventional r^2 statistic. See Appendix A for a description of the PI calculation.

decrease in predictive power most likely results from the loss of cases when the school variables are entered into the analyses. None of the service variables affect the predictive power of the models.

Looking Back to NLTS

Three of the indicators of social adjustment that are included in multivariate analyses in NLTS2 were subject to similar analyses in the original NLTS, using data collected from parents in 1987 or from schools in the 1985-86 or 1986-87 school year. Although the NLTS2 database is much richer than that of NLTS, thereby enabling consideration of a wider array of factors that may relate to social adjustment, many of the findings of the two analyses are similar.

The active social involvement of youth with hearing and visual impairments and their general avoidance of trouble at school and in the community are apparent at both time points. Similarly, the challenges to social integration posed by physical impairments also are consistent over time. Unfortunately, so is the propensity of youth with emotional disturbances to be arrested.

Relationships of functioning to social adjustment also are stable over time. In both NLTS and NLTS2, functional cognitive skills are related to a higher likelihood of both positive and negative social adjustment. Apparently, higher cognitive functioning facilitates both positive social involvement and the energy and imagination to get into trouble.

Some demographic factors also are similarly related to social adjustment in both studies. Young men with disabilities are consistently more likely than young women to have been arrested, as are older youth compared with their younger peers. However, relationships of race/ethnicity to social adjustment are more complex today. Whereas in 1987, minority status was related to only one of the social adjustment measures studied—the probability of arrest—racial/ethnic differences no longer are associated with differences in arrest rates; however, they do relate to differences in positive social adjustment, although in different directions for African American and Hispanic youth.

Finally, the NLTS database did not permit analysis of relationships between the kinds of programs and services investigated in NLTS2 (e.g., anger management programs, behavior intervention plans). However, inclusion in general academic education classrooms was a factor in analyses of social adjustment in both times periods, and results are similar. Students with disabilities who take a larger portion of their courses in general education classes are more likely to be positively socially integrated, as measured by belonging to one or more groups at school or in the community.

Summary

Findings in this chapter present a mixed picture of the social adjustment of youth with disabilities. There is considerable good news in that many youth with disabilities are reported to be socially quite well adjusted. Between one-third and one-half are reported by parents “always” to exhibit a variety of social skills, and most other youth are reported to do so at least some of the time. The majority of youth also behave well in the classroom, reportedly getting along well with their teachers and other students, controlling their behavior, and following directions. Most youth with disabilities also are socially integrated outside the classroom; approximately two-thirds belong to some type of organized group, and a similar percentage see friends at least once

a week outside of school and organized group activities. Teachers report that approximately three-fourths of youth who have social integration goals or behavior management goals in their transition plans are making good progress toward meeting them.

However, social adjustment challenges clearly remain for some youth with disabilities. According to parents, approximately one in six youth with disabilities never seem confident in social situations. In addition, approximately 1 in 10 are reported never to make friends easily, start conversations, control their temper when arguing with peers, or avoid situations that are likely to result in trouble. One in six reportedly never end disagreements with their parents calmly, and one in five never join group activities without being told to do so. Furthermore, approximately one in eight do not get along well with other students, and one in six do not control their behavior in the classroom. One in six are reported by parents to have bullied other students in school, and twice that number are reported to have been subject to some type of disciplinary action in school. According to school staff, one in four youth with disabilities who have transition goals related to improved social adjustment are not making much progress toward them. Outside of school, one in seven appear to be somewhat poorly integrated socially, in that they do not belong to any type of organized group and see friends less often than once a week. Approximately one in eight have been arrested.

Youth with learning disabilities or with speech, hearing, visual, or orthopedic impairments tend to have the highest levels of social adjustment. Youth with emotional disturbances, autism, or multiple disabilities tend to have the lowest social skills and poorest classroom behavior. In addition, youth with autism or multiple disabilities are among the least socially integrated outside the classroom, but they do not tend to get into trouble. In contrast, youth with emotional disturbances see friends regularly but are much more likely than any other group to have been arrested.

A youth's disability category is not the only factor related to his or her social adjustment. The youth's level of functioning, demographic characteristics, family characteristics, and school program and experiences also are related. In fact, when these factors are held constant in multivariate analyses, the associations between disability category and four measures of social adjustment tend to be somewhat weakened.

General social skills are associated with higher social adjustment, no matter what the measure; they increase a youth's likelihood of belonging to groups and seeing friends outside of groups, and they decrease his or her likelihood of getting into trouble in school and with the law. On the other hand, higher levels of self-care skills and functional cognitive skills also are associated with higher probabilities of both measures of positive social adjustment and poor social adjustment. The number of functional domains in which a youth has difficulties also follows this pattern: youth with problems in fewer domains are more likely to see friends regularly but also are more likely to have been arrested.

A youth's demographic and family characteristics have some association with his or her social adjustment, in that boys are more likely than girls to see friends regularly but also more likely to get into trouble. In addition, African-American youth are more likely and Hispanic youth less likely than white youth to have disciplinary problems at school. Also, youth from more affluent families tend to have better social adjustment, and youth whose families are involved at their schools and who have high expectations for their educational futures tend to be

socially more integrated. Family expectations that a youth will attend postsecondary school also are associated with a lower likelihood of disciplinary actions at school.

A youth's school program and experiences have strong associations with his or her social adjustment in predictable ways. Youth who change schools frequently tend to be socially less integrated and get into more trouble. At the same time, youth who take more courses in general education classes and those who get better grades tend to be socially more integrated and are less likely to get into trouble.

This chapter also investigated the associations of several types of social adjustment supports with youth's social adjustment. Findings show positive associations between receipt of supports and the two measures of poor social adjustment because students are likely to receive social supports because of poor behavior. Using longitudinal data, future NLTS2 research will overcome this limitation of measuring service receipt and related outcomes at the same point in time and disentangle these effects.