

3. *The School Engagement of Elementary and Middle School Students with Disabilities* By Lynn Newman and Elizabeth Davies

Policymakers, educators, and researchers agree that students who participate actively in and enjoy their school experience are more likely to experience educational success (Herman & Tucker, 2000; Hudley et al., 2002; Newmann, 1992; Singh, Granville, & Dika, 2002; Sirin & Jackson, 2001). This chapter examines the engagement in or “connection” to the school experience of elementary and middle school students with disabilities.

The extent to which students participate in their educational experiences can have critical and lasting implications. Low or inadequate engagement in school has been identified as a strong predictor of academic failure (Donahoe & Zigmond, 1990; Hudley et al., 2002; Schellenberg, Frye, & Tomsic, 1988; Wagner et al., 1991). Moreover, the association between engagement at school and academic achievement appears to be independent of student demographics, such as gender, race/ethnicity, or socioeconomic status (Finn, 1993). Low achievement, in turn, is a precursor to dropping out (Redd, Brooks, & McGarvey, 2001). Students need reasons to be enthusiastic about and dedicated to school.

Students who show little engagement in their education often have fewer positive experiences in the classroom than other students. For example, students who have frequent school absences necessarily lose opportunities to participate fully in their education. Likewise, those who struggle to meet classroom academic or behavioral expectations may experience repeated embarrassment or failure, which in turn may lead to diminished satisfaction and motivation for school.

Many students with disabilities have characteristics and experiences that put them at risk for disengagement from school. Students with disabilities may miss more school than other students because of factors associated with their disability. Teachers may have lower expectations for students with disabilities than for other students, resulting in the students receiving fewer opportunities and less encouragement to participate in stimulating or challenging classroom activities (Goodenow, 1992; Grossman, 2002). Moreover, some students have disabilities that may make it difficult for them to sustain attention to school tasks.

Fortunately, unlike some other student characteristics (e.g., demographics, disability category), a student’s level of engagement at school can be modified by external influences, such as teachers’ behaviors, school climate, and attitudes of parents and peers (Finn, 1993; King, Vidourek, Davis, & McClellan, 2002; Marks, 2000; Naffziger, Steele, & Varner, 1998). Students who are made to feel welcome at school, given opportunities, and encouraged to excel may be fully engaged, despite academic disadvantages.

Agreement is widespread that much can be gained from promoting students' engagement at school, but studies have shown little consensus in defining engagement. Some have focused on students' overt behaviors that indicate engagement, such as attending school regularly and completing homework, whereas others consider students' emotional experience of school. Research suggests that engagement at school is a multidimensional construct, having emotional or psychological as well as behavioral components (Finn, 1993; Sirin & Jackson, 2001). This chapter examines both the psychological and the behavioral dimensions of school engagement for students with disabilities.

The psychological or emotional dimension of engagement at school reflects the extent to which a student identifies with the school environment (Finn, 1993). Students who have positive feelings about school are more likely than other students to attend school and participate fully in their educational experience. Students' motivations, or their overall attitudes toward coming to school each day and their dispositions while there, are other psychological indicators of their engagement at school.

At least in part reflecting their feelings and motivations about school, students also demonstrate their school engagement by their behaviors. The behavioral aspect of student engagement relates to a student's overt participation in his or her education (Finn, 1993; Sirin & Jackson, 2001). School attendance is the most basic indicator of engagement. Missing many days of school means students miss coursework that often is 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. High absenteeism has been identified as perhaps the single strongest predictor of academic failure and dropout decisions for students with disabilities (Blackorby & Wagner, 1996; Donahoe & Zigmund, 1990; Schellenberg et al., 1988; Thurlow, Sinclair, & Johnson, 2002; Wagner et al., 1991). Finally, although attendance is necessary for reaping the benefits of school, it is by no means sufficient. Students make the greatest gains when they work hard and consistently, and when they engage actively in the learning enterprise in the classroom.

The analyses below focus on four indicators of engagement at school:¹

- Feelings about school.
- Motivation for schooling.
- School attendance.
- Classroom behaviors.

School engagement is described in regard to these dimensions for students with disabilities as a group and for those who differ in their primary disability category. Then, three indicators receive more in-depth analysis—motivation for school, absenteeism, and classroom engagement behaviors.

¹ Similar analyses were conducted for secondary school students with disabilities and are reported in Newman, Davies, & Marder, 2003.

Dimensions of School Engagement

The Psychological Dimension of School Engagement

The psychological dimension of school engagement is measured by students' feelings about school and their motivation for schooling. To estimate students with disabilities' feelings about school, parents were asked to indicate their level of agreement with the statement, "[Student's name] enjoys school." To examine student motivation, SEELS administered the Motivation for Schooling subtest of the School Attitude Measure (Wick, 1990). Students responded to seven questions related to looking forward to school, enjoying school, and the importance of school for later success. The motivation for schooling scale ranges from 7 (all responses given the least positive rating) to 28 (all responses given the most positive rating). Scale scores are grouped as less motivated (scores of 7 to 13), moderately motivated (scores of 14 to 20), and highly motivated (scores of 21 or 28).

- Students with disabilities demonstrate a range of levels of motivation for schooling (Exhibit 3-1). About 4 in 10 (42%) are characterized as being highly motivated with regard to their schooling; nearly one-fourth (23%) are characterized as having low motivation.
- Parents of a majority of students with disabilities (86%) agree or strongly agree that their children enjoy school (Exhibit 3-1), but only about half (52%) of students themselves report that they usually or always are happy at school (Exhibit 3-2).

Exhibit 3-1
Attitudes Toward School of Students
with Disabilities

	Percentage
Have parents who agree that their child enjoys school: ^a	
Strongly agree	35.2
Agree	50.9
Disagree/strongly disagree	13.9
Receive scores on motivation toward school that are: ^b	
High (scores of 13 to 16)	41.5
Moderate (scores of 8 to 12)	35.1
Low (scores of 4 to 7)	23.4

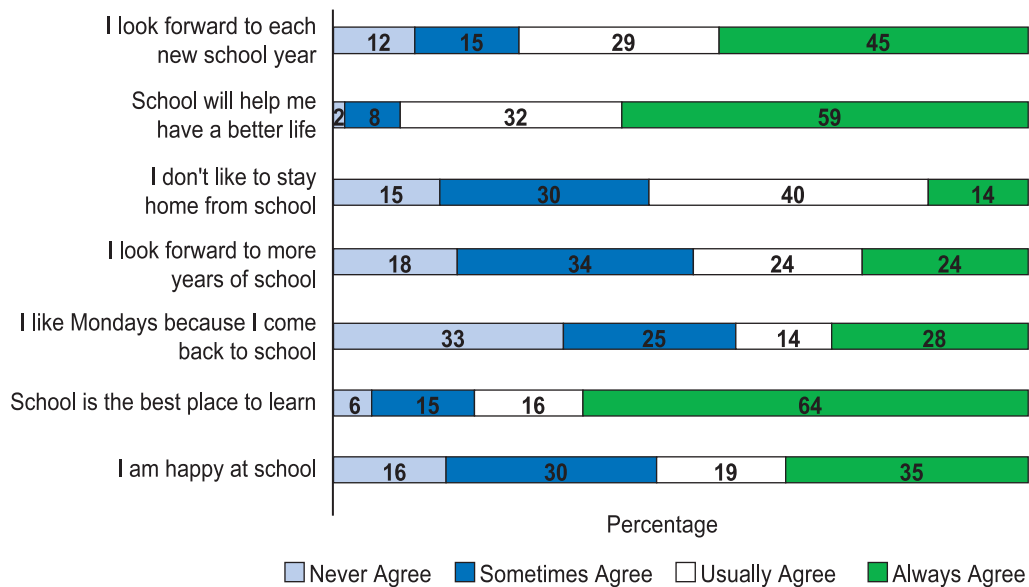
^a Source: Wave 1 parent interviews.

^b Source: Wave 1 direct assessment.

Standard errors and sample sizes are in Appendix B.

- Fewer than one-half of students with disabilities (42%) usually or sometimes agree that they like Mondays because they come back to school. A higher

**Exhibit 3-2
Motivation for Schooling of Students with Disabilities**



Source: Wave 1 direct assessment.
Standard errors and sample sizes are in Appendix B.

percentage of students report that they do not like to stay home from school (54% usually or always agree with the statement).

- Although these findings suggest that some students with disabilities do not always want to be at school, students appear to appreciate the benefits of school attendance. Most students with disabilities usually or always agree that school will help them have a better life (91%) and that school is the best place to learn (80%).

The Behavioral Dimension of School Engagement

The behavioral dimension of school engagement is measured by the number of days students are absent from school in a 1-month period (Exhibit 3-3) and by their behaviors when in the classroom (Exhibit 3-4).

- On average, students with disabilities miss 1.5 days of school in 1 month, or about 15 days per school year. In a 1-month period, 5% of students with disabilities miss more than 1 week of classes.

Exhibit 3-3
School Absenteeism of Students with Disabilities

Mean number of days absent in 1 month	1.5
Percentage absent 6 or more days in 1 month	4.7

Source: Wave 1 school program questionnaire.
Standard errors and sample sizes are in Appendix B.

To measure students' classroom behavior, language arts teachers were asked to report how often students do the following:

- Take part in group discussions
- Complete homework on time
- Follow directions
- Keep at a task until finished, even when it takes a long time
- Work independently, even with difficult tasks.

For four items, teachers responded on a 3-point scale and for one item on a 4-point scale, with both scales ranging from “rarely” to “almost always.” To examine overall classroom behavior in each type of setting, a scale was created by summing the ratings for the five behaviors. The scale ranges from 5 (all behaviors given the least positive rating) to 16 (all behaviors given the most positive rating). Scale scores are grouped as less engaged (scores of 5 to 8), moderately engaged (scores of 9 to 14), and highly engaged (scores of 15 or 16). Classroom behavior findings are presented separately for students attending a general education language arts class (55% of students with disabilities) and a special education language arts class (45% of students with disabilities) (Exhibit 3-4).

Exhibit 3-4
Classroom Engagement Scale Scores of Students
with Disabilities in Language Arts,
by Class Setting

	General Education Language Arts Class	Special Education Language Arts Class
Percentage less engaged (scores of 5 to 7)	2.8	4.2
Percentage highly engaged (scores of 13 to 16)	52.4	50.5
Mean score	12.7	12.0

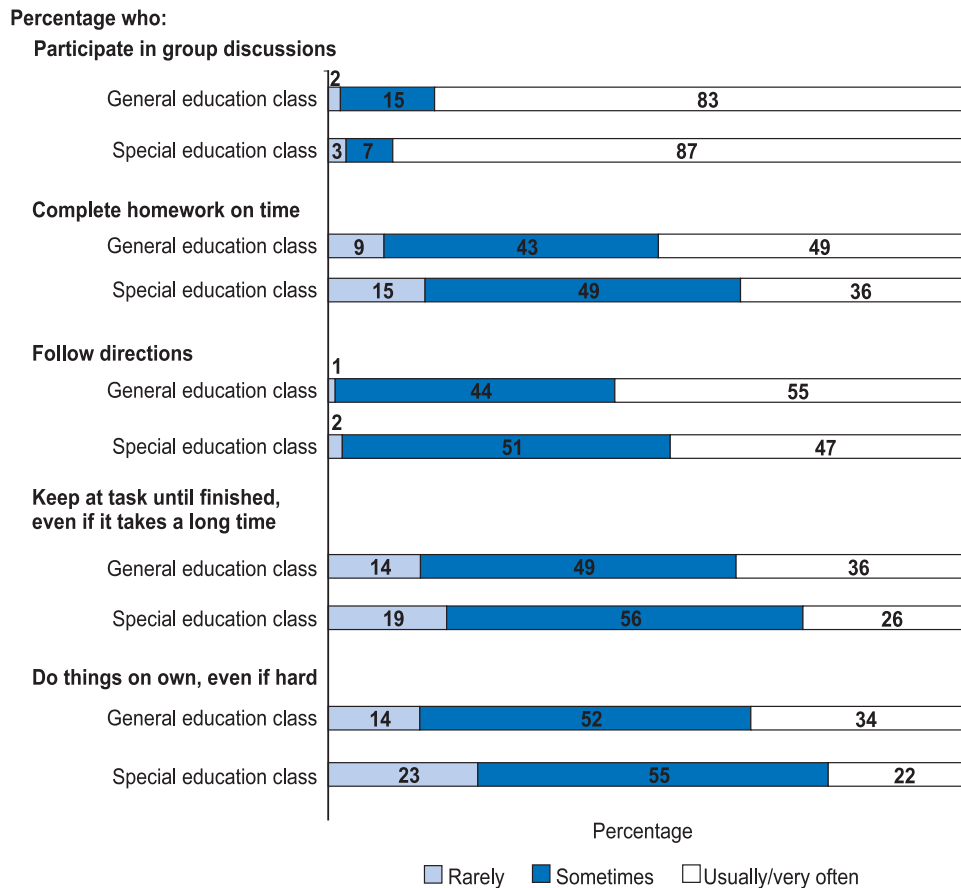
Source: Wave 1 teacher questionnaire.
The category “moderately engaged” is omitted from the exhibit.
Standard errors and sample sizes are in Appendix B.

- Students with disabilities in a general education language arts classroom are somewhat more likely to be considered highly engaged than are students in a special education language arts classroom. The mean classroom engagement scale score for students in a general education class is 12.7 out of a possible 16; for students in a special education class, this score is 12.
- The higher engagement of students with disabilities in general education classes is illustrated by specific student behaviors in the classroom. For example, higher percentages of students in general education than in special education language arts classes “usually” or “very often” complete homework on time, follow directions, keep at tasks until finished, and work on their own, even if the work is hard (Exhibit 3-5).
- The classroom behavior in which students with disabilities seem to be the most engaged is participating in group discussions. Most students with disabilities “usually” or “very often” participate in group discussions, regardless of class setting (83% of students in general education language arts classes and 87% of students in special education class).
- Fewer than half of students with disabilities “usually” or “very often” complete their homework on time; students in general education language arts classes are more likely to do so than are students in special education classes (49% vs. 36%).
- Teachers also reported on the propensity of students with disabilities to keep at a task until it is finished, even if it takes a long time. Overall, 36% of students in general education classrooms “usually” or “very often” persist with tasks, whereas fewer students in special education classes persist (26%). Teachers report that 19% of students with disabilities “rarely” keep at a task

until finished in special education classes, compared with 14% of students with disabilities in general education classes.

- According to teachers, most students with disabilities do things on their own at least some of the time, even when they find tasks to be difficult. However, this independence is more common among students with disabilities in general education than in special education classes. Of students in general education classes, 34% are likely to do things on their own “usually” or “very often,” compared with 22% of their peers in special education classes. Similarly, nearly one-fourth of students in special education classes (23%) “rarely” exhibit this kind of engagement, which is the highest such rating among the behaviors examined.

**Exhibit 3-5
Classroom Engagement Behaviors of Students with Disabilities,
by Class Setting**



Source: Wave 1 teacher questionnaire.
Standard errors and sample sizes are in Appendix B.

Disability Differences in School Engagement

- Overall, students with hearing, visual, or orthopedic impairments are among the most engaged students with disabilities (Exhibit 3-6). More than 45% of students in these disability categories have parents who strongly agree that their children enjoy school, and similar percentages received high motivation scores. Students with these disabilities also are among those most likely to be rated as highly engaged in the classroom, particularly in general education classes. Students with speech impairments, mental retardation, or multiple disabilities also tend to be more motivated toward schooling than students with other types of disabilities; those with speech impairments also have high classroom engagement behaviors in general education classes.
- Students with emotional disturbances or other health impairments are among the least engaged students with disabilities in regard to both the psychological and behavioral dimensions of school engagement. For example, 28% of students with emotional disturbances have parents who disagree or strongly disagree that the child enjoys school, the highest percentage among all disability categories. Students with emotional disturbances or other health impairments also are among the least likely to be rated as being highly motivated and as having classroom behaviors that demonstrate high engagement. Relatively few students with these disabilities have high classroom behavior engagement scores in either classroom setting.
- In terms of the behavioral dimension of school engagement, there is greater variation across disability categories in classroom behavior than in rates of absenteeism. Absenteeism does not vary widely by disability category, averaging 1 or 2 days. The students who are most likely to be absent at least 6 days in 1 month are those with mental retardation, traumatic brain injuries, or multiple disabilities (7% to 9%). The percentages of students who are considered highly engaged in terms of their classroom behaviors range considerably and differ by classroom setting.
- Students in many disability categories are more likely to be highly engaged when they are in general education language arts classes than when they are in special education classes. Students with mental retardation show the opposite pattern; they are more likely to be highly engaged when they are in special education than in general education classes. Students with learning disabilities, emotional disturbances, and other health impairments are equally likely to be highly engaged in the two settings.
- Classroom setting appears to be especially important for the engagement of students with certain disabilities. For example, students with visual impairments are twice as likely to have high classroom engagement scores when they are in a general education class as when they are in a special education class (63% versus 31%). In addition, 18% of students with visual impairments who are in a special education class have low classroom

engagement scores, compared with only 1% of those who are in a general education class. Students with autism also are much more likely to have low classroom engagement scores when in a special education class, rather than a general education class.

Exhibit 3-6
Students' School Engagement, by Disability Category

	Learning Disability	Speech/ Language Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Autism	Traumatic Brain Injury	Multiple Disabilities
Attitudes toward school											
Percentage whose parents agree that their child enjoys school ^a											
Strongly agree	29.6	41.4	40.2	24.1	45.8	48.6	46.3	32.9	39.5	31.7	44.2
Disagree/strongly disagree	16.0	9.8	10.9	27.8	10.1	8.0	6.3	20.4	12.5	16.6	7.9
Percentage with low motivation scale scores (7 to 13) ^b											
	14.6	5.3	8.3	15.3	9.6	8.6	10.7	17.7	9.4	22.6	6.8
Percentage with high motivation scale scores (21 to 28) ^b											
	45.4	51.9	58.0	38.2	47.7	47.4	49.3	37.1	42.5	40.0	62.7
Absenteeism^c											
Average days absent in 1 month											
	1.6	1.0	1.9	1.9	1.3	1.4	1.6	1.6	1.1	1.8	2.1
Percentage absent 6 or more days in 1 month											
	5.6	1.7	8.6	7.1	4.4	5.2	5.9	6.2	4.7	7.3	7.6
Classroom engagement behaviors^d											
Percentage with high classroom engagement scale scores (15 or 16) in:											
General education class	43.7	63.4	24.3	27.5	59.7	63.0	59.2	35.6	29.9	49.5	43.1
Special education class	49.3	48.7	42.4	27.1	48.0	31.0	43.2	33.2	19.8	37.9	34.3
Percentage with low classroom engagement scale scores (4 to 8) in:											
General education class	3.0	2.4	6.4	6.0	0.0	1.1	0.6	2.2	2.7	2.5	8.0
Special education class	1.4	6.2	6.5	5.3	3.1	18.1	7.4	3.4	12.2	2.0	13.5

^a Source: Wave 1 parent interview. The category "agree" is omitted from the exhibit.

^b Source: Wave 1 direct assessment.

^c Source: Wave 1 school program questionnaire.

^d Source: Wave 1 teacher questionnaire. The category "moderately engaged" is omitted from the exhibit.

Standard errors and sample sizes are in Appendix B.

Factors Associated with School Engagement

A series of multivariate regression analyses was performed to identify the independent relationships of three measures of school engagement—absenteeism, classroom engagement scale scores (in general and in special education language

arts classes), and motivation for schooling—with characteristics of students with disabilities, their households, and their school programs and experiences.

Individual Characteristics

Individual characteristics include those associated with the disabilities of students, their functioning, and their demographics (Exhibit 3-7).

Disability Characteristics

- These findings confirm some of the descriptive analyses presented earlier in the chapter regarding disability category differences in school engagement. For example, there are few significant differences in absenteeism associated with a disability category, with the exceptions that rates of absenteeism are 4 to 5 days greater annually for students with serious emotional disturbances, visual impairments, or other health impairments than for the comparison condition, students with learning disabilities.
- Although the bivariate analyses demonstrate considerable range in classroom engagement scores in both general and special education settings, multivariate analyses show no differences in classroom engagement ratings in general education language arts settings related to disability category. In contrast, in special education language arts, students with autism or multiple disabilities are less likely to be engaged in their classes, receiving lower special education classroom engagement scores than their peers with learning disabilities.
- Disability differences are apparent in students' motivation for schooling in these multivariate analyses. Controlling for other factors, these analyses show that students with speech impairments, serious emotional disturbances, or orthopedic impairments receive scale scores that signal lower motivation for schooling than do their peers with learning disabilities.
- In both general and special education language arts classes, students reported to have ADD/ADHD receive lower classroom engagement ratings than peers who do not have ADD/ADHD, independent of other differences between them.

Exhibit 3-7
Differences in School Engagement Associated with Individual Characteristics of Students with Disabilities

	Estimated Difference In: ^a				Comparison Categories
	Average Number of Days Absent per Year	General Education Classroom Behavior Scale Score	Special Education Classroom Behavior Scale Score	Motivation for Schooling Scale Score	
Disability characteristics					
Students classified with:					
Speech impairment				-1.5	vs. learning disability ^b
Mental retardation					vs. learning disability
Emotional disturbance	4.9			-1.1	vs. learning disability
Hearing impairment					vs. learning disability
Visual impairment	4.6				vs. learning disability
Orthopedic impairment				-1.1	vs. learning disability
Other health impairment	4.4				vs. learning disability
Autism			-0.6**		vs. learning disability
Traumatic brain injury					vs. learning disability
Multiple disabilities			-0.4		vs. learning disability
Parents report ADD/ADHD ^c		-0.3	-0.3		Yes vs. no
Age at identification of disability		-0.3		-0.9***	8-years vs. 4-years
Number of problem domains				0.5	Three vs. one
Functioning					
General health status	-4.3				Excellent vs. poor
Self-care skills	-4.5***		0.6***		High vs. low
Functional cognitive skills					High vs. low
Social skills	4.0				High vs. low
Persistence		0.6***	0.4***		Very often keeps at tasks vs. rarely does so
Demographics					
Age				-2.1***	12 vs. 9
Gender	-2.2		-0.4***	-0.8	Male vs. female
Race/ethnicity					
African-American				1.3***	vs. white
Hispanic				1.3	vs. white
Other					vs. white
Uses primarily language other than English at home					Yes vs. no

^aStatistics in this exhibit are calculated from models that include all individual characteristics shown in this exhibit as well as household characteristics (results shown in Exhibit 3-8) and school programs and experiences (results shown in Exhibit 3-9). All statistics in the exhibit are statistically significant at at least the $p < .05$ level; those with asterisks are significant at the $p < .001$ level.

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

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

Exhibit reads: Students with emotional disturbances miss an average of 4.9 more days in a year than students with learning disabilities, other factors being equal. The special education classroom engagement scores of students with high self-care skills are .6 points higher than the scores of students with low self-care skills. Other analysts could choose different comparisons (e.g., medium and low self-care skills), which would result in a different estimate but would have no effect on its statistical significance.

- Students who were older when they were first identified as having a disability have lower classroom engagement scores in general education language arts classes, as well as lower motivation for schooling scores, controlling for other factors.
- Students whose disabilities affect a greater number of functional domains (e.g., three vs. one domain, including general health, vision, hearing, use of appendages, speech production, speech comprehension, and participation in bidirectional communication) have higher motivation for schooling scores than students whose disabilities have less widespread functional limitations.

Functioning

- Although voluntary absenteeism from school is often considered an indicator of alienation from school (e.g., Finn, 1989; Hudley, 2002), clearly not all absenteeism is voluntary. Students with disabilities often are absent from school because of illnesses or overall poor health. Holding other differences constant, students whose parents report their health as being “excellent” miss nearly 5 fewer days of school in a year than those whose health is rated as “poor.”
- Students’ self-care skills are related to their school engagement. Those with higher self-care skills scores miss fewer days of school and receive higher behavior score ratings in their special education language arts classes.
- Functional cognitive skills are not related to any measure of school engagement, controlling for other factors.
- Having stronger social skills is related to higher rates of absenteeism, although it does not appear to be related to other types of engagement when other differences among students are held constant.
- Persistence is related to classroom engagement in both class settings. This relationship between keeping focused on tasks and classroom engagement is expected in that two components of the classroom engagement scale are completing homework on time and completing a task even when it takes a long time—two activities that reflect persistence.

Demographic Characteristics

- Age differences among 9- through 12-year-olds are unrelated to their absenteeism or behavior, but older students with disabilities have lower scores in motivation for schooling than their younger peers.
- Absenteeism, classroom engagement, and motivation for schooling are related to gender, though not in a consistent direction. Independent of differences in disability and other factors, boys miss 2 fewer days of school per year than do girls, but girls receive higher classroom engagement scale scores than boys in special education language arts classes and have higher motivation for schooling scores.

- Controlling for other factors, racial/ethnic background is related only to motivation for schooling. African-American and Hispanic students receive higher motivation ratings than do white students, other factors being equal.

Household Characteristics

- Household income is related to differences in absenteeism and classroom engagement in general education, with students from wealthier families missing less school and receiving higher classroom behavior scores in general education language arts classes than their lower-income peers (Exhibit 3-8). No differences are found in classroom engagement scores in special education language arts classes or in motivation for schooling related to household income when other factors are taken into account.

Exhibit 3-8 Differences in School Engagement Associated with Household Characteristics of Students with Disabilities

	Estimated Difference In:				Comparison Categories
	Average Number of Days Absent per Year	General Education Classroom Behavior Scale Score	Special Education Classroom Behavior Scale Score	Motivation for Schooling Scale Score	
Household income	-1.8	.2			\$55,000 to 60,000 vs. \$20,000 to 24,000 (12 vs. 5)
Family involvement at home	-2.6	-.2***			High vs. low (8 vs. 4)
Family involvement at school					High vs. low (6 vs. 1)
Family expectations for postsecondary attendance					Definitely will vs. probably won't (4 vs. 2)

^aStatistics in this exhibit are calculated from models that include all household characteristics shown in this exhibit as well as individual characteristics (results shown in Exhibit 3-7) and school program and experience factors (results shown in Exhibit 3-9). All statistics in the exhibit are statistically significant at at least the $p < .05$ level; those with asterisks are significant at the $p < .001$ level.

Exhibit reads: Students from households with incomes of \$55,000 to \$60,000 miss an average of 1.8 fewer days in a year than students from households with incomes of \$20,000 to \$24,000, other factors being equal. The classroom engagement scores of students in general education classes whose families have high involvement in their education at home are .2 points lower than the scores of students with low family involvement at home. Other analysts could choose different comparisons (e.g. \$30,000 to \$34,000 and \$40,000 to \$44,000 in household income), which would result in a different estimate, but would have no effect on its statistical significance.

- Family involvement at home is related both to absenteeism and to classroom engagement in general education settings, but in opposite directions. Students whose families are more highly involved in their children's education at home miss 3 fewer days of school annually, but they also receive lower class behavior engagement scores than do those whose families are less involved at home.
- Parents expecting their children with disabilities to continue their education past high school is not related to any of the engagement measures.

School Programs and Experiences

School Program Factors

Several aspects of the school programs of students with disabilities are related to their school engagement (Exhibit 3-9).

- Holding constant individual and household differences among students, greater inclusion in general education classes is related to lower absenteeism for students with disabilities. Conversely, students whose course taking emphasizes special education classes miss more school. The extent of participation in general education classes is unrelated to students' engagement behavior or motivation for school.
- Class size is related to engagement only in special education settings where larger classes are associated with lower engagement ratings.
- Several kinds of accommodations and supports provided to students with disabilities are related to their classroom engagement. Controlling for other factors, students who receive social adjustment supports also receive lower engagement ratings in both settings. Also, students who receive more modifications for tests, instructions, and assignments receive lower engagement scale scores in general education language arts classes. Although these kinds of academic and social supports could be expected to help students with disabilities feel more engaged and successful in these classes, it also is reasonable to believe that students who are struggling in class are the most likely to receive such supports. Although other factors related to disability and functioning are included in the analyses to attempt to control statistically for variations in students' needs for such supports, a negative relationship between receiving supports and school engagement persists.

Exhibit 3-9
Differences in School Engagement Associated with School Programs and Experiences of Students with Disabilities

	Estimated Difference In:			Comparison Categories
	Average Number of Days Absent per Year	General Education Classroom Behavior Scale Score	Special Education Classroom Behavior Scale Score	
School Programs				
Percentage of time spent in general education classes	-3.8***			75% vs. 25%
Class size			-.4***	22 students vs. 10
Number of social adjustment supports provided		-.5***	-.7***	Two vs. none
Number of modifications to tests		-.4***		Seven vs. one
Modifications to curriculum materials			-.2	No modification vs. substantial modification
Degree of whole class instruction			.3	Frequent vs. rare
Degree of small group instruction			.9***	1.5***
Degree of individual instruction from teacher		-.7***		Frequent vs. rare
Degree of individual instruction from another adult				.4***
Literature activities		2.4***	1.2***	Frequent vs. rare
Skills-based activities		1.2***	1.3***	Frequent vs. rare
Other School Experiences				
Grades		1.3***	.9***	Mostly As and Bs vs. Mostly Ds and Fs
Absenteeism		-.4		5 days vs. 0 days
School mobility		-.4***		Three school changes vs. none
Retention at grade level				Yes vs. no
Membership in school groups		NA	NA	Yes vs. no

^aStatistics in this exhibit are calculated from models that included all school program factors shown in this exhibit, as well as individual and household characteristics (results shown in Exhibits 3-7 and 3-8). All statistics in the exhibit are statistically significant at at least the $p < .05$ level; those with asterisks are significant at the $p < .001$ level.

Exhibit reads: Students who take an average of 75% of their courses in general education classes miss an average of 3.8 fewer days of school in a year than students who take 25% of their classes there, other factors being equal. The classroom engagement scores of students in general education classes who frequently engage in literature-based activities are 2.4 points higher than the scores of students with a low frequency of such activities. Other analysts could choose different comparisons (e.g., 40% and 60% time spent in general education classes), which would result in a different estimate, but would have no effect on its statistical significance.

- Students who receive an unmodified curriculum have higher classroom engagement scores in special education language arts than do peers who receive substantial modifications, controlling for other factors.
- Higher levels of participation in several classroom groupings approaches also are related to measures of engagement. Frequent participation in both whole class and small group instruction are related to higher classroom engagement scores in special education language arts classes. In addition, frequent participation in small group instruction is related to higher motivation for schooling scores. On the other hand, students who require and receive greater individual instruction from a teacher have lower classroom behavior ratings in general education, whereas those receiving more instruction from another adult have higher motivation for schooling scores.
- More frequent participation in both literature-oriented activities (e.g., literature, poetry, writing), as well as skill-building activities (e.g., phonics, vocabulary), is related to higher classroom engagement ratings in both general and special education classes.

Other School Experiences

There are several relationships between the variety of current and past experiences that students with disabilities have with school and their current school engagement.

- Students with higher grades receive higher classroom engagement scores than peers with lower grades, controlling for other factors.
- Higher levels of absenteeism are related to lower classroom engagement in general education language arts.
- Changing schools frequently, for reasons other than changing grade levels, appears to result in weaker social bonds with the school; students who have changed schools three times have lower behavior ratings in general education classes than those who have made no changes, other things being equal. Students who change schools frequently also are less motivated toward their schooling.
- Having been held back a year in school does not appear to have a negative relationship with school engagement, nor does participation in extracurricular school activities, other aspects of students and their experiences held constant.

How Much is Explained?

- The four multivariate analyses of measures of school engagement explain a statistically significant portion of the variation in the measures analyzed, although the factors analyzed explain a larger percentage of variation in classroom behaviors than in absenteeism. Analyses of classroom behavior produce r^2 s (i.e., the proportion of variance in the dependent measure explained by the independent variables) of .37 and .42 for behavior in special

and general education classes, respectively, and .18 for motivation for schooling. In contrast, the r^2 is .06 for absenteeism. More than half of the explained variation in engagement is attributable to disability and functioning. Overall, consideration of school program and experience factors adds more to the explanatory power of the analyses than do household characteristics and support for education.

Summary

This chapter examines the school engagement of students with disabilities, addressing the extent to which students are absent from school, enjoy and are motivated at school, and exhibit various behaviors that suggest engagement in classroom activities.

The majority of students with disabilities enjoy school, according to their parents, and four out of ten are highly motivated toward schooling according to their own reports. Few are excessively absent from school, and poor health is a common reason for it. Language arts teachers give high ratings on classroom engagement behaviors to more than half of their elementary and middle school students with disabilities.

Student engagement at school is related to characteristics of students, as well as to characteristics of their school programs. In bivariate analyses, there are substantial differences across disability categories in students' school engagement, although many of these differences are moderated in multivariate analyses when other differences among students are held constant. However, students with emotional disturbances are less engaged in the school experience than are students with other disabilities in both analyses. Although the most highly engaged students with disabilities are those with hearing or visual impairments, their engagement does not differ from students with learning disabilities when other differences, such as gender, household income, and school program characteristics are taken into account.

When examined in bivariate analyses, students' classroom engagement behaviors are related to class setting; students with disabilities who are in general education language arts classes are more likely than other students with disabilities to be rated as highly engaged and to be described as frequently participating in classroom discussions, completing homework on time, and working independently. However, these aspects of classroom behavior are not significantly associated with the amount of time spent in general education classes when other factors are taken into account, suggesting that the differences among the students in the settings may be related more to variations in classroom behaviors than to the settings themselves.

Other characteristics, such as demonstrating persistence and being female, are associated with higher levels of classroom engagement. Likewise, boys, students who are healthier, and students whose families are wealthier and more involved at home have lower levels of absenteeism than other students.

Several factors that characterize students' school programs and performance are also related to engagement. Participation in general education is associated with lower levels of absenteeism, although it is the only school program factor to relate to that measure. More frequent small group instruction is associated with higher classroom engagement in special education language arts classes and overall motivation for schooling. Similarly, frequent participation in class activities related to literature or skill development relates to higher classroom engagement scores across settings. Students who need and receive accommodations to tests or social adjustment supports have lower levels of engagement, independent of differences in other factors.

Clearly, factors associated with students' school programs play a role in helping students with disabilities maintain interest in school. Likewise, promoting personal characteristics, such as persistence, may be beneficial in encouraging these students' ongoing participation in the school experience.