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Absenteeism Rates in Students Receiving Services for CDs, LDs, and EDs: A Macroscopic View of the Consequences of Disability

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Several inferences can be drawn from student absenteeism. As a dependent measure, student absenteeism rates have long been used to investigate a variety of health-related phenomena and associations. Student absenteeism was a proxy measure for community health levels in early pollution impact studies (e.g., Bury, 1970; Ferris, 1970; Verma, Schilling, & Becker, 1969; Wayne, Durham, & Wherle, 1969) and is still used as such in current investigations. A recent example can be found in Houghton, Gleeson, and Kelleher (2003). In this study, retrospective student attendance records were used to examine the impact of a community's exposure to industrial pollution. Results documented gradual increases in student absenteeism that coincided with the introduction of a coal-burning power station and an aluminum plant to the community. Other investigations of absenteeism have used this macroscopic measure to examine the impact of different social and psychological stressors on children's health. For example, Pennebaker, Hendler, Durrett, and Richards (1981) examined the relative contributions of home environment and peer sociability on preschoolers' attendance rates. Regression analyses indicated that students from higher socioeconomic backgrounds and later born children tended to be absent from school less. In contrast, students whose parents were divorced or separated tended to have higher rates of absenteeism. Additional predictors of absenteeism were also found on the parent and teacher ratings of student's behavior. Specifically, students with elevated levels of aggression or shyness tended to have higher rates of absenteeism. Hansen, Sanders, Massaro, and Last (1998) similarly used regression analyses to examine possible relationships between psychological, sociodemographic, and familial factors on the absenteeism rates of adolescents receiving treatment for anxiety disorders. These investigators found that students with the highest levels of absenteeism tended to have higher levels of anxiety and be older and from homes that placed relatively low emphasis on out-of-home recreational activities. Collectively, the results of these two separate lines

ABSTRACT: **Purpose:** Elevated levels of absenteeism have been reported for students receiving special education services, especially students with learning disabilities (LDs) and emotional disturbances (EDs). In contrast, little is known about absenteeism rates associated with students with communication disorders (CDs).
Method: Archival records of student attendance for the 1997–2001 academic years from a mid-sized urban school district in the Intermountain West were used to examine absenteeism rates in students receiving services for CDs, LDs, and EDs. Two cohort samples were generated (K–4th grade and 5th–9th grade).
Results: Students with CDs displayed absenteeism rates that were comparable to those of students receiving general education. Significant group and group × grade effects were found. Students in the LD and ED groups displayed elevated levels of absenteeism, especially at Grade 9.
Conclusion: The outcomes of this study support the characterization of the socioemotional concomitants associated with CDs as being typologically different and exerting a weaker influence on student's health levels than those associated with either LDs or EDs.

KEY WORDS: absenteeism, school attendance, communication disorders, speech impairment, language impairment, learning disabilities, emotional disorders, quality of life

of inquiry suggest that attendance rates, and by inference students' overall levels of physical and mental health, can be affected by the presence of environmental, social, and psychological stressors.

The properties of student absenteeism as an independent measure have also been investigated. Up to 28% of American school-aged children refuse school at one time or another in the absence of legitimate physical illness or familial conditions (Kearney & Albano, 2000). However, for approximately 1% to 5% of the student population, school refusal lasts for more than 2 weeks and/or is associated with symptoms of socioemotional distress such as somatic complaints, tantrums, or aggression (cf. Berg, 1992; Berg & Nurnsten, 1996; Evans, 2000; Fremont, 2003; Hansen et al., 1998; Kearney & Tillotson, 1998; King, Ollendick, & Tonge, 1995). In this context, the term "school refusal behavior" is meant to coalesce distinct constructs including school phobia, separation anxiety, and various conduct-related problems. Absenteeism represents a defining symptom for underlying psychiatric conditions. The clinical presentation of school refusal and its treatment represent ongoing concerns for developmental psychopathological research.

Absenteeism and Educational Inequities

In the political realm, student absenteeism has been employed most often as an actuarial measure to infer the integrity of public education. Concerns regarding overall rising levels of absenteeism and inequities across communities have figured prominently in many educational policies such as state truancy prevention programs. Reducing absenteeism has also been part of federal initiatives like the precedent-setting Elementary and Secondary Education Act of 1965 and the more recent No Child Left Behind Act of 2001. Actuarial analyses have revealed a number of patterns linking elevated levels of absenteeism to student characteristics. Established risk factors for attendance difficulties include English language learner status, eligibility for free or reduced lunch, and the receipt of special education services (Chiland & Young, 1990; National Center for Education Statistics, 2006).

Absenteeism, Academic Achievement, and Verbal Proficiency

School attendance logically places a limit on the potential benefits that students can receive from instruction. When a student is frequently absent from school, he or she is at risk for decreased academic attainment, which can then set up a cascade of problems including grade retention, poor self-esteem, school dropout, and ultimately lower standards of adult living (Hersov, 1985; Zigmond & Thornton, 1985). It is not surprising that absenteeism has been shown to be related to achievement levels for students receiving both regular education and special education services. For example, Heberling and Shaffer (1995) examined the impact of school attendance on the grade point averages (GPAs) of fifth graders, 70 receiving regular education and 17 receiving services for learning disability (LD). In both groups of students, the authors found a negative association between absenteeism and students' GPA ($r = -.33$, $p = .01$), indicating a weak but significant trend for a student's GPA to decrease when days absent increased. Similar results were found in a study sample of older students receiving special education services. Mattison (2004) examined absenteeism rates, GPAs, IQ scores, and teacher-reported psychiatric symptoms in a middle school cohort of 89 students receiving services for emotional disturbances (EDs). Twenty-one of the students in the sample were concurrently receiving language intervention (23.6%). During the course of 1 school year, students averaged 15 absences (range: 0–72 days) and an average GPA within the "C" range. Caucasian students were absent from school significantly more often than were students from other racial groups. A negative correlation was found between students' GPA and absenteeism ($r = -.31$, $p = .004$). There were also weak but significant associations between absenteeism and teacher-reported depressive symptoms (r value range = .24 to .33, $p < .05$). No significant correlations were found in this study sample between student absenteeism rates and gender, socioeconomic status, or IQ (verbal, performance, or full scale).

In contrast to the findings of Mattison (2004), significant associations between attendance and verbal proficiency were found in Petrides, Chamorro-Premuzic, Frederickson, and Furnham's (2005) study sample of 901 students in regular education (mean age = 16;5 [years;months]). Structural equation modeling was used to examine the relative impact of verbal ability and personality traits on several academic outcome measures, including attendance. The Eysenck Personality Questionnaire—Revised (EPQ–R; Eysenck, Eysenck, & Barrett, 1985) was used to measure children's levels of extraversion, introversion, and neuroticism. Children's verbal abilities were measured using a verbal reasoning test designed for the project. Results indicated that performance on the verbal reasoning test was a significant positive predictor of attendance ($\beta = 0.325$, $t = 5.91$, $p < .01$), whereas elevated extraversion scores were a significant negative predictor of attendance ($\beta = -0.128$, $t = 2.16$, $p < .01$). The best predictor of academic performance was student's verbal ability.

Naylor, Staskowski, Kenney, and King (1994) also found an association between student's verbal achievement scores and absenteeism rates within their sample of 54 students receiving psychiatric services. In this study, students were identified as either "school refusers" or "nonrefusers." Students were placed into the school refuser group if their attendance at school had been marked by emotional distress (e.g., tantrums, tearfulness, extreme anxiety) and if they had missed more than 2 consecutive weeks of school or had excessive absences for greater than 2 months. Groups were matched for age, sex, socioeconomic status, and primary diagnosis (e.g., major depressive episode, dysthymia, eating disorder, or separation anxiety). A battery of verbal and nonverbal achievement tests, which included the Wechsler Intelligence Scale for Children—Revised (WISC–R; Wechsler, 1974), the Woodcock Johnston Test of Achievement (WJTA; Woodcock & Johnson, 1989), the Test of Language Competence (TLC; Wiig & Secord, 1989), and the Clinical Evaluation of Language Fundamentals—Revised (CELF–R; Semel, Wiig, & Secord, 1987), was administered to both groups. Although means for both groups were within the normal range, statistical comparisons revealed a significant and consistent advantage for the non-refuser group across most of the language measures. The one exception to this generalization was the expressive portion of the CELF–R. Group differences were not observed on nonverbal measures.

Naylor et al. (1994) concluded that untreated communication disorders (CDs) probably played a role in the etiology of school refusal in their sample of students with psychiatric disorders. Specifically, these investigators suggested that the academic and

communication frustration that result from students' CDs lead to demoralization, impaired self-esteem, social impairment, and, eventually, disengagement from school. The results of the Naylor et al. study are suggestive but represent indirect evidence that speech-language impairments are linked to student absenteeism. Unfortunately, the study was not designed to address the issue of whether it was the combination of psychiatric difficulties and CDs that set these students up for increased risk of absenteeism relative to other students with similar psychiatric difficulties or if the presence of CDs would have been a sufficient risk factor for absenteeism.

Hicks (2002) examined 21,798 attendance records representing the entire student population of a Missouri school district for the 1999/2000 academic year. Two thousand, seven hundred and sixty-four students (12.1%) were receiving special education services. Attendance rates in students receiving special education services and students receiving regular education were compared across Grades 1 through 12. Within-group differences were also examined by disaggregating the special education group into the 12 state-mandated disability categories. Within the special education group, approximately half of the students were receiving services for LDs. Speech/language impairment was the second largest service category, representing 20% of the special education group. Mid-range categories included children receiving services for other health impairments, mental retardation, and EDs (8.8%, 8.3%, and 7.2%, respectively). Low incidence categories (<2%) included visual impairment, deaf/blind, hearing impairment, autism, traumatic brain injury, and multiple disabilities.

Results were consistent with previous reports documenting attendance problems of students with disabilities. In this sample, students receiving special education services had significantly lower rates of attendance than did their general education counterparts, although the magnitude of group differences was small (95% vs. 92% days in attendance). Attendance rates within the special education group were also mediated by grade level, with the lowest overall rates of attendance (88%) appearing in Grade 9. Within the special education group, attendance rates for 9 of the 12 disability categories were significantly lower than the rates for the regular education levels. These included students receiving services for LDs, mental retardation, behavioral disorders, deafness/blindness, hearing impairments, traumatic brain injury, physical impairments, multiple disabilities, and other health impairments (group attendance ranges = 89% to 93%). In contrast, attendance rates for children receiving services for speech/language impairments, autism, and visual impairments were similar to those of their general education counterparts. The finding of normal levels of attendance in children with autism was inconsistent with a previous report documenting the presence of attendance difficulties in this population (Hiroshi, 1991).

The results of Hicks (2002) suggest that the presence of speech/language impairments may not represent a sufficient risk factor for absenteeism. This finding warrants replication because it is somewhat surprising in light of research suggesting connections between children's speech/language impairments and socioemotional difficulties (cf. Beitchman, Nair, Clegg, Ferguson, & Patel, 1986; Cross, 2004; Fujiki, Brinton, Isaacson, & Summers, 2001; Gallagher, 1999; Redmond & Rice, 1998, 2002; Redmond & Timler, 2007). Given the established links between psychosocial stressors, socioemotional difficulties, and disability status on reduced student attendance, we would expect children with CDs to present with elevated levels of absenteeism.

Questions Directing the Current Study

There are several reasons for speech-language pathologists (SLPs) working in the public schools to be concerned about student absenteeism within the populations they serve. It is now well established that children receiving special education services will attend school at lower rates than their general education counterparts. Inconsistent attendance places students at increased risk for academic failure and reduces the amount of potential benefit that students can gain from therapeutic services. This fact impacts practice directly because individual education programs (IEPs) require planning teams to determine the amount of special education time that each student needs. IEPs should be adjusted to reflect expected levels of student attendance (cf. Sullivan & McDaniel, 2001). Similarly, evaluations of the effectiveness of services provided by SLPs working in the schools would need to make accommodations for student attendance. Absenteeism also represents a macroscopic measure that allows researchers and policy makers to consider the impact of CDs on children's mental and physical health relative to other high-incidence disabilities such as LDs and EDs.

Evidence linking CDs to attendance difficulties has been equivocal. What is needed at this point is a longitudinal investigation of attendance rates to complement evidence that has already been gathered using cross-sectional designs. One of the limitations associated with cross-sectional designs and school-mandated disability categories is that children may begin their educational careers under one category and then switch later to other categories. This is particularly problematic for comparisons of CD and LD because some children appear to "graduate" from CD to LD when services are needed to address their literacy limitations. A better approach would be to compare individual children over time rather than categories.

With these considerations in mind, we set out to address the following research questions:

- Do students with an initial CD status differ from students in general education in their absenteeism rates during the transition into school through the early and middle elementary grades?
- Do students receiving services for CDs in Grade 5 differ from students in general education in their absenteeism rates during the transitions from elementary to middle to high school?
- Do students receiving services for CDs in Grade 5 differ from students receiving services for LDs or EDs in their absenteeism rates during the transitions from elementary to middle to high school?

METHOD

Participants/Data Source

Archival records of student attendance from a mid-sized urban school district in the Intermountain West region of the United States were used to address the study questions. Demographic

characteristics of the school district reflected the community from which the districts were drawn, with the following racial/ethnic distributions: 51.8% White, 31.8% Hispanic/Latino, 5.3% Pacific Islander, 4.5% African American, 4.4% Asian, and 2.2% American Indian/Alaskan Native. Free/reduced lunch was received by 58.7% of the students, and 37.1% were identified as English language learners. The majority of students lived with both parents (61.9%). Special education services were received by 14.4% of the students. Of the students receiving special education services, 55% were receiving services for LDs, 16.4% were receiving services for CDs, and 11.8% were receiving services for EDs.

From an original set of 28,745 student records, we generated two cohort samples from the 1997–2001 attendance records using a nonproportional stratified sampling approach (Gall, Gall, & Borg, 2003). We constructed a K–4th-grade sample by first identifying 63 students who were receiving services for CDs in kindergarten and who had complete records up to Grade 4. We then randomly sampled 70 children who were enrolled in general education who also had complete attendance records. Random sampling of the control group was necessary in order to allow generalization from our subsample to the actual sample in the dataset and to maintain population validity. This cohort of 133 children allowed us to examine the impact of initial CD status at school entry through the early and middle elementary grades on students' absenteeism rates relative to expectations set by children in general education. Characteristics of the K–4th-grade cohort are displayed in Table 1.

Due to the small number of students who carried the LD or ED designations in the early elementary grades, we were not able to make comparisons of CD to these other disability categories for Grades K–4. Instead, we examined these group comparisons at Grades 5–9. Following the same procedures used to generate the K–4 cohort, we constructed a second cohort by identifying those students from the CD, LD, and ED groups who had complete records from Grades 5 to 9. This yielded 28 students receiving services for CDs, 28 students receiving services for LDs, and 26 students receiving services for EDs. We then randomly sampled a control group of 25 students who were enrolled in general education. This cohort of 107 students allowed us to examine the impact of CD status on students' absenteeism relative to other high-incidence special education categories during the transition from elementary to middle and then to early high school. However, there is an important caveat here regarding the study samples. Our access to student attendance records only spanned 5 years, so we could not determine how many students in the CD, LD, or ED groups at Grade 5 had previously received services for other disability categories. By the same token, some students in the control group might have begun their academic careers with a disability designation. Characteristics of the 5th–9th-grade cohort are displayed in Table 2.

RESULTS

K–4th-Grade Cohort

An analysis of variance (ANOVA) was used to examine differences in the dependent measure "percentage of days absent" (days absent/number of days enrolled) between the CD and control groups across kindergarten to Grade 4. A significant main effect was observed for the within-subjects factor, grade: $F(4, 524) = 22.509$, $p < .0001$. Group and Group × Grade interaction effects were not significant: $p = .613$ and $p = .208$, respectively. These results suggest that absenteeism rates were influenced by students' grade level but that these effects were similar for both the CD and control groups (see Figure 1). In both groups, absenteeism rates displayed a reverse *J* shape over the grades sampled characterized by relatively high rates in kindergarten (8%–9%), a steep decline in Grade 1 (5%), a more steady decline in Grades 2 and 3 (4.5%–4%), and a slight increase in Grade 4 (5%–5.5%).

5th–9th-Grade Cohort

An ANOVA was used to examine differences in the percentage of days absent between the CD, LD, ED, and control groups across Grades 5 to 9. Significant main effects were found for both the between- and within-subjects factors, group, $F(3, 98) = 2.677$, $p = .051$, $\eta^2 = .076$; and grade, $F(4, 392) = 6.927$, $p < .0001$; $\eta^2 = .066$; as well as for the Group × Grade interaction effect, $F(12, 392) = 1.790$, $p = .048$, $\eta^2 = .052$. These results suggest that absenteeism differences between groups were mediated over grade levels (see Figure 2). For the CD and control groups, absenteeism followed

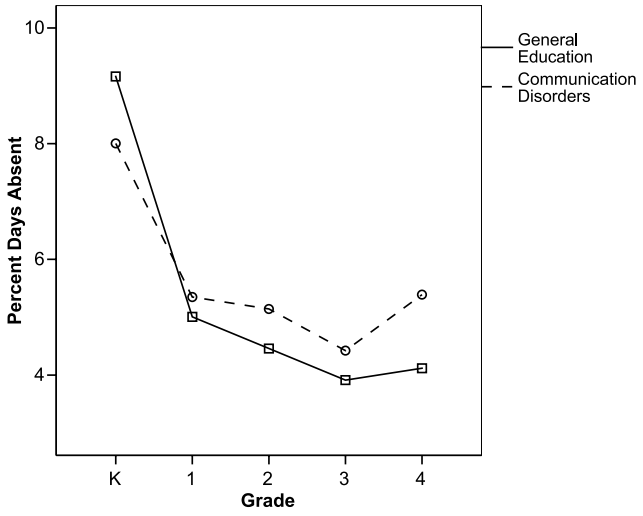
Table 1. Kindergarten–4th-grade sample.

	General education	*Communication disorder*
Gender		
Female	47%	41%
Male	53%	59%
Free/reduced lunch	58%	39%
Race/ethnicity		
White	55%	62%
Hispanic	32%	22%
Pacific Islander	6%	4%
Asian	3%	1%
African American	3%	7%
American Indian	1%	4%

Table 2. 5th–9th-grade sample.

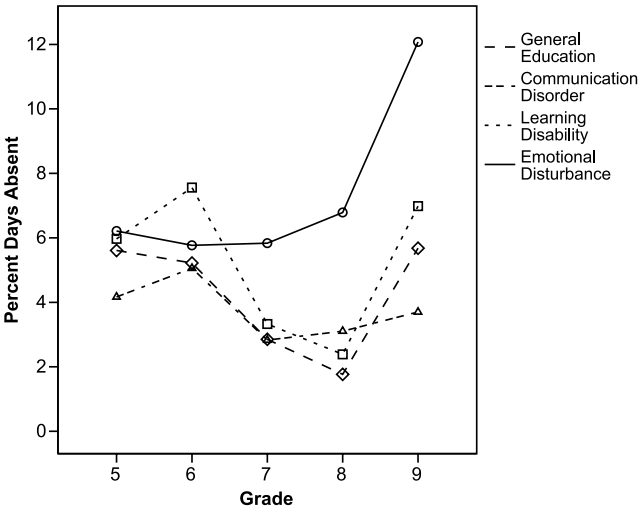
	General education	*Communication disorder*	*Learning disability*	*Emotional disturbance*
Gender				
Female	64%	35%	44%	14%
Male	36%	65%	56%	86%
Free/reduced lunch	74%	70%	86%	77%
Race/ethnicity				
White	52%	76%	46%	70%
Hispanic	38%	9%	26%	12%
Pacific Islander	2%	7%	4%	0%
Asian	6%	2%	8%	1%
African American	0%	2%	8%	15%
American Indian	2%	4%	8%	2%

Figure 1. Percentage of days absent for children with communication disorders and children receiving general education: Kindergarten–4th grade.



similar paths, with values starting at a moderate level in Grade 5 (4%–6%), dropping steadily over Grades 6–8 (3%–2%), and rising in Grade 9 (3%–5%). At each grade, the CD group mean was either lower than or equal to the control group's mean. In contrast, the LD group's rate was consistently higher than both the CD and control groups at each grade. The LD group followed the same overall pattern over grade levels as the CD and control groups, with the exception of a prominent spike in the LD group's absenteeism during Grade 6 (7.5%). The ED group's rate of absenteeism over the grade levels did not conform to the pattern found in the other groups. Instead, this group's absenteeism rate displayed a swooping curve, with a dramatic increase evident in the transition from Grade 8 to 9 (6%–12%).

Figure 2. Percentage of days absent for children with communication disorders, children with learning disabilities, children with emotional disturbances, and children receiving general education: 5th–9th grade.



DISCUSSION

In this study, CD stood out as a high-incidence disability category that did not place students at risk for absenteeism. Our longitudinal results represent a confirmation and extension of Hicks's (2002) cross-sectional study of students from a Midwestern school district. In both studies, students with CD status did not display the same attendance problems that characterized students with either LD or ED status. In other words, CD as a category of special education services does not appear to be a sufficient risk factor for absenteeism.

What do these results mean? Given that student absenteeism has been used to infer various relationships between environmental, social, and psychological stressors and children's health levels, and has been linked to socioemotional/academic difficulties and disability status in children, these results encourage several different interpretations. At a practical level, these results mean that SLPs would not need to adjust IEP statements when working with students who have been identified as having CD as their primary disability designation. Adjustments to IEP statements, however, appear to be called for when SLPs are working with students receiving services for LD, ED, and other disability designations. This is especially true for students with LDs in Grade 6 and for students with EDs in Grade 9. Furthermore, the observation of attendance problems in individual students with CDs should be considered a red flag for potential unaddressed socioemotional/academic difficulties.

At a more macroscopic level, these results appear to contribute to a better understanding of the consequences of CDs on students' health-related quality of life. Attendance problems currently are viewed as reflections of student's underlying difficulties in academic and/or socioemotional functioning (Berg, 1992). The LD and ED outcomes within our study sample and Hicks's (2002) sample certainly support this view. Taken in this light, our CD group outcomes are consistent with the position that the socioemotional concomitants associated with CD are typologically different and exert a weaker influence on student's health levels than those associated with either LD or ED (cf. Redmond & Rice, 1998, 2002). Furthermore, given the observation of elevated levels of absenteeism in the ED but not in the CD group, the results do not support characterizations of overlap between these two clinical populations (e.g., Beitchman et al., 1986; Goodyer, 2000; Melamed & Wozniak, 1999).

More speculative explanations for the observed group differences are possible. For example, perhaps students in the CD group were more compliant, less assertive, or more anxious than their counterparts receiving LD or ED services and thus more likely to acquiesce and attend school. Alternatively, maybe students with CDs were unable, due to their verbal limitations, to express their unwillingness to attend school. The problem with these explanations is that they are inconsistent with documented attendance problems in students with elevated levels of shyness/anxiety and in students from other disability categories with characteristically limited verbal abilities (e.g., autism, hearing impairment, mental retardation,

traumatic brain injury). Another possibility is that the receipt of speech-language services represented a protective factor for students in the CD group. This interpretation is consistent with Naylor et al.'s (1994) suggestion that untreated CDs were responsible for the elevated levels of absenteeism within their clinical group of school refusers. However, to test this account, future investigations would need to examine the relative benefits on school attendance of providing speech-language services to students representing ED and other disability designations.

The results of this study are limited by the actuarial nature of the data. This was unavoidable given that we were interested in macroscopic analyses of disability and used anonymous archival records to examine the attendance records of relatively large groups of students over multiple grades. Unfortunately, we did not have access to the diagnostic characteristics of the participants beyond their designations of having a CD, an LD, or an ED. Nor did we have access to the frequency or type of interventions that students were receiving as a consequence of their disability designation. However, even if we had this information, given the expected variability across schools and between clinicians in diagnostic protocols, intervention procedures, and intervention schedules, it probably would have had questionable value. Whether there might have been subgroups of students within the CD group or particular profiles of speech-language impairments (e.g., receptive semantic/pragmatic deficits vs. expressive phonological/syntactic deficits) that were associated with attendance problems remains an empirical question. Similarly, there might have been important resilience factors that characterized those students with LDs or EDs who were not presenting with attendance problems. Explorations of these possibilities represent potentially fruitful investigations for future research.

A public health/quality-of-life perspective on the impact of CDs has remained largely underdeveloped. This is unfortunate given the relatively high prevalence rate of CDs and the financial and social burdens that the identification and remediation of CDs places on families and educational systems. Comparisons of student absenteeism rates represent an example of the larger frames of reference necessary to examine the relative costs to public health that might be associated with CDs. The results of this first investigation into the impact of CD status on students' attendance levels relative to the impact of other disability designations are encouraging in that they suggest that speech and language impairments may not necessarily compromise students' overall health/quality of life. At least for some students with CDs, the positive outcomes suggested by their school attendance levels may carry forward after their academic careers into young adulthood. Records, Tomblin, and Freese (1992) used self-report surveys to examine differences in quality of life in young adults (17–25 years) with and without histories of specific language impairment (SLI). Respondents reported on their personal happiness and levels of satisfaction across various life domains (e.g., family, job, social life). Results indicated that despite the young adults' histories of mild to severe language impairments, the young adults with SLI did not perceive themselves as less happy or less well off than their regular education counterparts. Future investigations should examine more closely the links between disability designation (LD, ED, CD), students' absenteeism, and self-reported levels of quality of life in adulthood. Ultimately, progress on our understanding of the socioemotional and health concomitants associated with student disability will only be achieved when we start integrating research findings from the microscopic and macroscopic levels of analysis.

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