

Author, Year Country Study Design Sample Size	Population Intervention Outcome Measure	Results
(Harder et al., 2013) USA Observational N=24	<p>Population: Age at interview: 11.5±3.4 (5-18) yr; Age at injury: 9.7±4.8 (1-17) yr; Gender: males=9, females=15; Injury etiology: Transverse Myelitis; Level of injury: cervical (N=13); Ambulation: normal=46%, abnormal but ambulated independently=79%, bilateral support (i.e., crutches) =29%, wheelchair-bound=8.3%.</p> <p>Intervention: None. Neuropsychological evaluation, patient and caregiver surveys.</p> <p>Outcome Measures: Academic performance at school.</p>	<ol style="list-style-type: none"> Parents reported that 33% of subjects were below average or failing performance in one of four academic domains.
(Massagli et al., 1996) USA Observational N=53	<p>Population: Age at Injury: 9.2 (0-17) yr; Gender: males=33, females=20; Injury etiology: SCI=43, Transverse Myelitis=7, Skeletal Dysplasia=1, Other=2; Time since injury: 9.4 (0-26) yr; Level and severity of injury: complete paraplegia=17, incomplete paraplegia=8, complete tetraplegia=17, incomplete tetraplegia=11.</p> <p>Intervention: None. Survey.</p> <p>Outcome Measures: School placement, cumulative and most recent term grade point average (GPA), use of services (e.g., physical or occupational therapy, an aide, or nurse) and assistive technology, highest level of education achieved by each parent. Self-ratings on performance in discussions, group activities, homework, test completion, independent study, behavior; teacher reports on school program, type of classroom setting, changes in class requirements for the student, use of transition services, and use of assistive technology in the classroom, student performance; attendance, grades, transition planning.</p>	<p><i>Primary School Subjects (n=12)</i></p> <ol style="list-style-type: none"> All subjects were enrolled in school full-time; 9 were qualified for special education services and they received special services that included an aide (58%), a full-time private RN (8%), and physical or occupational therapy (75%). Almost all (n=11) participated in physical education and all participated in recess and field trips. The most common modifications reported by the students and teachers were allowance of extra time to complete in-class work (33%), and a change in location (17%) due to lack of access. The median values for self-ratings by students ranged from 4 to 6, and by teachers of the students from 4.5 to 5.5 (not significantly different). <p><i>Secondary School Subjects (N=19)</i></p> <ol style="list-style-type: none"> Two subjects attended school part-time and the rest went full-time. Six students were qualified for special education services; special services provided to secondary students included an aide (32%), a full-time private RN (10%), physical or occupational therapy (16%), and classes related to vocational preparation (26%). Only 9 participated in physical education, and 6 reported that they did not participate in class field trips. Modifications provided for these students included extra time to complete in class work (42%), location change (26%), and alternate assignments (21%). Eighty-five percent of secondary students, including both who were ventilator-dependent, planned to attend college. Mean grade point average (GPA) for these 19 students was 3.05. Students had a mean of 23 absences per school year, but school absences did not appear to influence the previous term GPA.

		<p>12. Class ranks were available for 11 students for which 45% were in the top quartile and 18% in each of the other 3 quartiles.</p> <p>13. Both students and teachers rated all performance measures a median of 5, (no significant difference).</p> <p><i>Post-Secondary Subjects (N=22)</i></p> <p>14. Only 2 (9%) of the 22 postsecondary subjects did not complete high school; 50% were currently in college, 32% had completed college, and 18% had never attended college.</p> <p>15. Compared to secondary students, these students reported similar modifications in their school work but with greater frequencies: extra time to complete work and tests (68%), a location change (50%), and alternate assignments (32%).</p> <p>16. Those in college anticipated working in such jobs as pharmacist, lawyer (n = 2), engineer (n = 2), teacher, personnel manager, accountant, and social worker.</p> <p>17. Two students were ventilator-dependent; one anticipated a job in psychological counseling and the other was uncertain.</p> <p>18. Actual jobs held by those who had completed or never attended college included engineer, photographer, insurance agent, computer operator, ranch foreman, teacher, homemaker (n=2), and rehabilitation counselor (subject who was ventilator-dependent).</p> <p>19. Five postsecondary subjects lived with family, 1 lived in a nursing home, 4 lived away from family with an aide, and the rest lived independently.</p> <p>20. The level of SCI was not related to whether or not a working age subject had ever been employed in a minimum wage job: 11 of 20 with paraplegia versus 6 of 17 with tetraplegia had ever been employed (p=0.23).</p>
<p>(Graham et al., 1991) USA Observational N=13</p>	<p>Population: Age at injury: 12-19 yr; Gender: males=12, females=1; Level of injury: tetraplegia=6, paraplegia=7.</p> <p>Intervention: None. Survey and Interview.</p> <p>Outcome Measures: personal care needs, asking for and receiving help in school, perceived attitudes of classmates and teachers, availability of counseling services, and participation in extracurricular activities. Responses to the following questions:</p> <p>1) How do you feel other students perceive you and your disability? 2) Do you have problems with other students because of your disability? 3) How did your parents react regarding your return to school? 4) Do you participate in school activities?"</p>	<p><i>Of total sample (N=44), 11 dropped out of school before their injury; 5 refused to return to school after their injury; 5 already had graduated from high school; and 2 had educational services provided at home; 21 patients returned to school of which data is presented here for 13 who agreed to participate.</i></p> <ol style="list-style-type: none"> 1. No student felt that able-bodied students had poor attitudes or unfriendly toward them. 2. Male students enjoyed the positive attention from others, particularly from female peers. 3. Those reluctant to ask for help excluded themselves from activities (to appear independent); those with paraplegia often stated they did not need help in school. 4. Parents wanted students to go to school and accepted no excuses except actual physical illnesses. 5. All schools attended were (mostly) wheelchair accessible; one had to be assisted up a steep ramp, one student blamed the school for not providing a wheelchair accessible location and he dropped out of school in last term. 6. Educational and vocational counseling was very limited. 7. Three students with tetraplegia had a note-taker assigned; tape recorders were also used to take notes.

		<ol style="list-style-type: none">8. None of the students were required to attend physical education class; leisure activities involving able-bodied and disabled were lacking.9. Reasons for non-participation in other extra-curricular activities were a) the long school day, b) the rigid transportation schedule, c) homework and personal care schedules, and d) fear of crowds and violence.10. Males with paraplegia had no problems with personal care.11. Bladder and bowel accidents were not a major concern; only three students reported accidents which were a source embarrassment.12. While few problems were expressed initially, follow-up reports revealed a dropout rate for this group of 38% (5 of the 13).13. The five students who dropped out of regular day schools all did so in the 11th grade and had been shooting victims.14. Four of the six students who graduated from regular high school programs also enrolled in colleges.15. One student died in the senior high school term from a subsequent gunshot wound.16. The youngest student, who was 12 yr old when injured, still is attending school.
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