Author, Year Country Study Design Sample Size	Population Intervention Outcome Measure	Results
(Miriam Hwang et al., 2015) USA Observational N=461	**Population:** *Pediatric-onset SCI:* Age at interview: 32.3±5.8 (22-50) yr; Age at injury: 14.2±4.4 (0-18) yr; Gender: males=290, females=171; Time since injury: 18.1±6.6 (6-43) yr; Level of injury: paraplegia=210, tetraplegia=251; Severity of injury: C1-4 AIS ABC=65, C5-8 AIS ABC=160, T1-S5 AIS ABC=189, AIS D=43, missing=4. **Intervention**: None. Cross-sectional data from a larger longitudinal study. **Outcome Measures**: Standard Occupational Classification (SOC) system.	1. Individuals with paraplegia were more likely to be employed than those with tetraplegia (p=0.001). 2. There was no difference in employment rates between males and females (p=0.741). 3. Married individuals were significantly more likely to be employed than single individuals (p=0.001). 4. Those who were able to drive were more likely to be employed than those who did not drive (p<0.001). 5. Education, Legal, Community Service, Arts, and Media Occupations were most prevalent (30.2%), followed by Management, Business, and Financial Occupations (21.1%), Computer, Engineering, and Science Occupations (10.6%), and Office and Administrative Support Occupations (10.0%). 6. There was a similar proportion of men and women who were employed in the Management, Business, and Financial Occupations (men, 20.4%; women 22.7%) and Education, Legal, Community Service, Arts, and Media Occupations (men, 30.1%; women, 30.3%). 7. There was a higher proportion of women than men who were employed in the Healthcare Practitioners and Technical Occupations (men, 0.9%; women, 9.1%) and the Office and Administrative Support Occupations (men, 6.2%; women, 16.7%). 8. Men were predominant in the Farming, Fishing, and Forestry Occupations (men, 3.5%; women, 0%); Construction and Extraction Occupations (men, 2.7%; women, 0 %); Installation, Maintenance, and Repair Occupations (men, 2.7%; women, 0%); Production Occupations (men, 4.4%; women, 1.5%); and Transportation and Material Moving Occupations (men, 0.9%; women, 0%). 9. There was a similar proportion of individuals in the tetraplegia and paraplegia groups working in the Education, Legal, Community Service, Arts, and Media Occupations (tetraplegia 30.6%; paraplegia 29.8%) and Healthcare Practitioners and Technical Occupations (tetraplegia 3.5%; paraplegia 4.3%). 10. The distribution of parttime versus full-time employment within each SOC group revealed a higher prevalence of fulltime employment in all SOC groups except for the Service Occupations and Sales and Related Occupations, which displayed similar proportions between the employment intensity groups. 11. Approximately one-half of individuals with a postbaccalaureate or a professional degree were employed in the Education, Legal, Community Service, Arts, and Media

		Occupations (49.1%), with Management, Business, and Finance Occupations (21.1%) and Healthcare Practitioners and Technical Occupations (10.5%) following in frequency. 12. For those with a baccalaureate degree, Management, Business, and Finance Occupations (32.7%) and Education, Legal, Community Service, Arts, and Media Occupations (28.8%) were most prevalent, followed by Computer, Engineering, and Science Occupations (9.6%) and Office and Administrative Support Occupations (9.6%). 13. Among individuals with an associate's degree or technical training, Education, Legal, Community Service, Arts, and Media Occupations (17.9%) were most frequent, followed by Computer, Engineering, and Science Occupations (16.1%) and Office and Administrative Support Occupations (16.1%), whereas Production Occupations (33.3%) and Service Occupations (16.7%) were most prevalent in participants whose final diploma was from high school or a GED. 14. Data on job satisfaction were available for 82 of the 219 employed individuals and revealed that 77 (94%) were at least moderately satisfied with their occupation and 5 (6%) reported some degree of dissatisfaction.
(Hwang et al., 2014b) USA Observational N=283	**Population:** *Pediatric-onset SCI:* Age at interview: 27.3±3.7 (21-37) yr; Age at injury: 14.5±4.3 (0-18) yr; Gender: males=182, females=101; Time since injury: 12.7±5.0 (4-30) yr; Level of injury: tetraplegia=174; Severity of injury: complete=195; C1-4 AIS ABC=46, C5-8 AIS ABC=110, T1-S5 AIS ABC=99, AIS D=28. **Intervention:** None. Annual interviews. **Outcome Measures:** Satisfaction with Life Scale (SWLS), Short-Form 12 Health Survey (SF-12), Patient Health Questionnaire-9 (PHQ-9), and Craig Handicap Assessment and Recording Technique (CHART).	1. Those attaining a bachelor's degree or higher had increased from 33.2% at the first interview to 47.0% at the last interview. 2. There was no change in the proportion of employed versus unemployed from the first (56.8% versus 43.2%) to last interview (58.1% versus 41.9%) (less than general population estimates). 3. At the last interview, the proportion of employed participants was significantly higher in those with a baccalaureate and post-baccalaureate degrees, whereas the proportion of unemployed individuals was higher in those with a high school diploma. 4. Women and married participants also had higher rates of employment at the last interview than men and single participants, respectively. 5. There was no significant change in employment status over time (OR 1.01, confidence interval (CI) 0.98-1.04). 6. Odds of employment increased over time in participants who were women (1.04, CI 1.00-1.08), married (1.05, CI 1.02-1.08), attained a baccalaureate degree (1.03, CI 1.00-1.07), or post-baccalaureate degree (1.05, CI 1.02-1.08). 7. Odds of employment decreased over time in participants with occurrence of autonomic dysreflexia (0.80, CI 0.65-0.99), spasticity (0.80, CI 0.59-0.99) or chronic medical condition (0.83, CI 0.71-0.98). 8. Life satisfaction (SWLS) scores increased over time in those who remained employed (1.11, CI 1.01-1.22).

		9. Odds of depression (PHQ-9) increased over time in those who remained unemployed (1.13, CI 1.04-1.23).
(Hwang et al., 2012) USA Observational N=215	**Population:** *Pediatric-onset SCI*: Age at interview: 23.3±0.9 yr; Age at injury: 13.2±4.9 yr; Gender: males=126, females=89. Time since injury: 10.3±5.0 yr; Level of injury: tetraplegia=51.6%; Severity of injury: complete=73.5%, C1-4 AIS ABC=11.2%, C5-8 AIS ABC=35.3%, T1-S5 AIS ABC=43.3%, AIS D=8.8%, missing=1.4%. **Intervention:** None. Survey. **Outcome Measures:** Functional Independence Measure (FIM), Satisfaction with Life Scale (SWLS), Short-Form 12 Health Survey (SF-12), Patient Health Questionnaire-9 (PHQ-9) Depression Scale, and Craig Handicap Assessment and Recording Technique (CHART), use of tobacco, alcohol, and marijuana.	1. Prevalence rates of regular substance use were 27.9% for tobacco, 55.4% for alcohol and 10.7% for marijuana (Table 2). These rates are considerably lower than the age-matched general population values. 2. Tobacco use was higher in participants who were unemployed than those employed either full- or part-time (38% versus 21%). 3. Alcohol use was higher in participants who were Caucasian (60 versus 26% non-Caucasian), had a college degree (80% versus 47% no college degree), were employed (70% versus 45% unemployed), had higher annual income (44%, $10 000 versus 65%, $10000-29999 versus 77%, >$30000), were single (59% versus 31% married) and able to drive independently (67% versus 35% cannot drive independently). 4. Marijuana use was more prevalent in males (14% versus 6% female) and those without a college degree (13% versus 2% college degree). 5. There was no significant difference in the prevalence of substance use between those living independently, or in relation to any injury-related factors such as level, severity or duration of injury. 6. Individuals with regular alcohol use had significantly lower incidence of urinary tract infections (64 versus 82%) and chronic medical conditions (11 versus 22%) compared with individuals with no use. 7. Tobacco use was significantly associated with depressive symptoms (PHQ-9; $p<0.05$). 8. Alcohol use was associated with higher socio-cognitive independence (FIM; $p<0.01$), better perceived physical health (SF-12 physical, CHART physical, CHART mobility; $p<0.05$ for all), and increased community participation (CHART social; $p<0.05$). 9. Marijuana use was not associated with any outcome measure. 10. There was no association between SWLS and substance use of any type. 11. Logistic regression indicated that both unemployment and the presence of depressive symptoms contribute independently to tobacco use ($p<0.05$). 12. Logistic regression indicated that having a college degree ($p<0.05$) and being single were found to contribute most in predicting regular alcohol drinking ($p<0.01$), while independent mobility ($p<0.01$) was also a significant predictor for use. 13. Logistic regression indicated those with a college degree were less likely to use marijuana ($p<0.05$).
(Anderson et al., 2006) USA Observational N=166	**Population:** Age at injury=14.2±4.0 yr; Gender: males=115, females=51; Level of injury: tetraplegia=106; Severity of injury: AIS A=105.	*Living Status:* 1. A total of 106 (64%) subjects lived independently at the initial interview and

	Intervention: None. Interview at three different time points. **Outcome Measures:** Craig Handicap Assessment and Reporting Technique (CHART), Short-Form 12 (SF-12), and Satisfaction with Life Scale (SWLS).	95 continued to live independently for the remaining 2 follow-up interviews. 2. Of the 60/166 who were not living independently at the first interview, 48/60 (80%) did not live independently at any interview. 3. There were no significant differences between those living independent or dependently with respect to demographic, or body structure and function factors. 4. Those living independently were more functionally independent and have high community participation (CHART total and all subscales except economic self-sufficiency), more likely to be employed, more satisfied with their lives (p<0.030 for all), more likely to be married (p<0.001), less likely to have the medical complications of spasticity, pressure ulcers, and severe UTIs (p<0.050 for all). 5. Factors most predictive of consistent independent living in the regression were CHART physical independence, mobility, and occupation scores (39% variance). *Employment:* 6. Excluding students and homemakers, there were 113 individuals who completed 3 interviews of which 72 (64%) were employed at the first interview; 60 continued to be employed at the remaining 2 interviews. 7. Of the 41 who were not employed at the first interview, 34 (83%) remained unemployed at all interviews. 8. Those employed at all 3 interviews included a larger percentage of women (81%) than men (57%), a larger percentage of those who were Caucasian (68%) versus other (17%), a larger percentage of those with paraplegia (82%) than tetraplegia (54%), and a larger percentage of those with college degrees (80%) than those with less education (20%). 9. Those employed were more functionally independent and participated more in the community (CHART subscales physical independence, cognitive independence, mobility, and social integration). 10. Those consistently employed were also more likely to be married, to live independently, to have greater life satisfaction, less likely to have spasticity (p<0.050 for all). 11. Factors most predictive of stable employment were being female, being Caucasian, having greater cognitive independence and community mobility (CHART), and living independently (71% variance). *Life Satisfaction:* 12. Of the 166 participants, 80 (48%) had good life satisfaction at the first interview, and 64 (84%) continued at the 2 follow-up interviews.

		13. A total of 86/166 (52%) had poor life satisfaction at the first interview and 56 (65%) remained dissatisfied at the 2 follow-up interviews. 14. There were differences between those with good or poor life satisfaction with respect to demographic, or body structure and function factors. 15. Factors significantly associated with high life satisfaction scores included functional independence, perceived mental health, participation in the community (CHART total and mobility, occupation, and economic self-sufficiency subscales), fewer medical complications (i.e., pressure ulcers, UTIs, and pain), being married, living independently, and being employed. 16. Predictive factors of life satisfaction in a regression were show to be CHART occupation subscale and fewer pressure ulcers (56% variance).
(Anderson & Vogel, 2002) USA Observational N=195	**Population:** *Pediatric-onset* SCI: Age at injury: 14.1±4.0 yr, Age at interview: 28.7±3.4 yr, Gender: males=134, females=61; Time since injury: 14.6±4.3 yr. Level of injury: tetraplegia=112, paraplegia=194. Severity of injury: complete=83, incomplete=78. **Intervention:** None. Survey. **Outcome Measures:** Functional Independence Measure (FIM), Craig Handicap Assessment and Reporting Technique (CHART), Short-Form 12 (SF-12), Satisfaction with Life Scale (SWLS).	1. Among the sample, 40% (n=78) were unemployed, 51% (n=99) were employed, 6% (n=12) were students, and 3% (n=6) were homemakers. 2. Gender ratio of students (33% female) was similar to those employed (35% female) and significantly higher than those unemployed (20% female) (p<0.001). 3. Compared to those unemployed, those who were students, homemakers or employed were significantly less injured (p=0.010), more likely to be living independently (p=0.002), had higher total FIM scores and sub-scores (p=0.001), higher total CHART score and sub-scores (except for social integration) (p<0.05 for all), greater SWLS scores (p<0.001); there was no significant difference between all groups on SF-12. 4. More women (69%) than men (51%) were employed (p=0.030); genders were approximately equal for full-time employment but more women were employed part-time than men. 5. No significant differences in rate of employment by race, age at interview, age at injury, or duration of injury. 6. Individuals with SCI from medical and/or surgical causes were more likely to be employed (85%) than were those with other etiologies (54%; p=0.030). 7. Individuals with paraplegia were more likely to be employed than were those with tetraplegia (66% versus 49%, p=0.027) but this trend was significant for women only. 8. Compared to those employed, those unemployed had lower FIM (total and subscores) (p<0.006 for all), CHART (total and subscores) (p<0.050 for all), SF-12 physical score (p=0.011), SWLS (p<0.001) but not SF-12 mental score. 9. With respect to medical complications, compared to those employed, those unemployed had greater spasticity (p=0.001), severe urinary tract infections

		(p<0.001), respiratory complications p=0.044), pressure ulcers (p<0.001) and days hospitalized (p=0.013). 10. The regression model for the outcome employment demonstrated four significant predictors: total yr of education p<0.001), community mobility (p<0.001), functional independence (p=0.037), and decreased medical complications (p=0.017).
Kannisto & Sintonen (1997b) Finland Observational N=408 N(SCI)=36 N(PS)=372 SCI – Spinal Cord Injury PS – Population Sample	**Population:** (SCI) Mean age=31.3±9.9yr.; Gender: males=25, females=11; Level of injury: Complete tetraplegia=3, Incomplete tetraplegia=5, Complete paraplegia=25, Incomplete paraplegia=3; Level of severity: AIS A=28, B/C/D=8; Time since injury=20.0±11.2yr. (PS) Demographic characteristics not reported for PS group. **Intervention:** None – observational, outcomes compared to general population sample. **Outcome Measures:** Health-Related Quality of Life (HRQL (15D – 15 multiple-level dimensions)) and average importance of HRQL dimensions.	1. HRQL score of the SCI group was significantly lower than that measured in the population sample. 2. Average importance weights assigned by the SCI group differed significantly (p<0.05) from those assigned by the general population group on several dimensions: 1) SCI group higher for mental functioning, communicating, social participation, and seeing; 2) SCI group lower for moving, working, sleeping, and eating.
Vogel et al. (1998) USA Observational N=81(46) *Of the original sample, 30 were lost to follow-up and 4 died	**Population:** Mean age=27.2±1.8yr.; Gender: males=31, females=15; Level of injury: C4-T12; Level of severity: AIS A=26, B=9, C=8, D=3; Time since injury: Not reported. **Intervention:** None – observational. **Outcome Measures:** A structured questionnaire including physical, psychosocial, and medical information. The Craig Handicap Assessment and Reporting Technique and two measures of life satisfaction were also administered.	1. 54% of participants were employed: Full time, 39%; Part-time, 15; Unemployed, 46%. 2. 48% of participants lived independently. 3. 15% of participants were married. 4. Life satisfaction was associated with education, income, satisfaction with employment, and social and recreational opportunities.
(Massagli et al., 1996) USA Observational N=53	**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. **Intervention:** None. Survey. **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,	*Post-Secondary Subjects (N=22)* 1. 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. 2. 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%). 3. Those in college anticipated working in such jobs as pharmacist, lawyer (n = 2), engineer (n = 2), teacher, personnel manager, accountant, and social worker. 4. Two students were ventilator-dependent; one anticipated a job in psychological counseling and the other was uncertain. 5. Actual jobs held by those who had completed or never attended college included engineer, photographer,

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.	insurance agent, computer operator, ranch foreman, teacher, homemaker (n=2), and rehabilitation counselor (subject who was ventilator-dependent). 6. 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. 7. 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 bad ever been employed (p=0.23).