Disability Employment Literature Review

Produced for the Image Center
as part of the Successful Employment for People with Disabilities Project
September 2011

Jo Anne Schneider
Associate Research Professor
Department of Anthropology
George Washington University
jschneid@gwu.edu

Introduction

Low employment levels for people with disabilities have drawn concern from policy makers, those serving people with disabilities, and people with disabilities themselves for many years. While statistics vary depending on type of disability, education, age and other factors, the overall employment rate for people with disabilities has hovered around 30 percent for over a decade. Despite expectations that the Americans with Disabilities Act (ADA) would expand employment opportunities for people with disabilities, the percentage employed has dropped significantly since the act was implemented. Scholars differ on the causes for lower employment levels.

This literature review is a first step in a project designed to identify factors that lead to successful careers for people with disabilities. It focuses on two questions:

What do we know about employment levels and experiences of people with disabilities?

What factors influence employment outcomes for people with disabilities?

In order to address these questions, academic and policy literature from the last 10 years on employment for people with disabilities was reviewed. The literature search focused on studies that were evidence reviews – overviews of existing research on a topic, new research that included extensive literature reviews, and major government sponsored studies of employment programs such as the Vocational Rehabilitation program. The literature fell into three categories:

1. Overviews of employment outcomes and related issues

2. Studies of programs and legislation designed to improve employment for people with disabilities

3. Studies focusing specifically on strategies to improve employment outcomes

This document summarizes these studies and outlines lessons learned collectively from this research. The review looks at literature in each of these three categories, providing summaries for each category. The final section outlines major factors contributing to successful careers for people with disabilities identified in the literature.

Overviews of Employment Outcomes and Related Issues

This general literature on employment for people with disabilities focused primarily on government statistics available through the Current Population Survey (CPS), Survey of Income and Program Participation (SIPP), and American Community Survey (ACS), ongoing surveys from the U.S. Census Bureau in conjunction with the Bureau of Labor Statistics, as well as the voc rehab national data system and several national health surveys. Research looked at employment trends for people with disabilities overall, variations in employment statistics depending on how disability was determined, and differences in employment statistics based on characteristics of people with disabilities. This review outlines findings in several general overviews of employment statistics (Houtenville et al 2009, Stapleton and Burkhauser 2003,

Boutin 2010, Hall and Parker 2010), reviews focused on people with spinal chord injuries or wheel chair users (Lidal, Huyn and Biering-Sorenson 2007, Ville and Winance 2006), people with developmental disabilities (Gardner and Carran 2005, Migliore and Butterworth 2008) or autism and asperger syndrome (Barnhill 2007, Lawer, Brusilovskiy, Salzer and Mandell 2008), and hearing impairments (Boutin 2010b). This section also includes results from a longitudinal study of the vocational rehabilitation program that focuses on employment outcomes (Hayward 1998, Hayward and Schmidt-Davis 2003a, 2003b, 2005). The U.S. Vocational Rehabilitation system is the primary government program focused on employment for people with disabilities. Various authors speculate on causes for changes in employment statistics while the vocational rehabilitation studies identify factors that influence employment outcomes for people using that system.

One major source for research on disabilities is the Rehabilitation Research and Training Centers (RRTC) funded by National Institute for Disability and Rehabilitation Research (NIDRR). Two recent edited volumes (Stapleton and Burkhauser 2003, Houtenville et al 2009) summarize their work on employment and related issues. *The Decline in Employment of People with Disabilities* explores the drop in employment from 44 percent for men and 37.5 percent for women in 1989 to roughly 33 percent for both genders in 2000 (Stapleton and Burkhouser 2003: 4). A series of articles focused on various aspects of disability employment primarily debate two issues - 1) who to include in employment measures and 2) the impact of the ADA and changes in SSI/SSDI on employment for people with disabilities. The same themes are echoed in their later work, *Counting Working Age People with Disabilities* (Houtenville et al 2009). Similar statistics appeared throughout the rest of the literature on employment and disability.

Statistics for employment vary depending on how disability is measured as well as time worked. Through most of the time period reported in these studies, disability was measured differently in the various studies. The biggest debate involved whether employment statistics should include people who reported a disability that created a "work limitation," based on the presumption that people with this kind of disability were less likely to be employed. Statistics show higher levels of employment for people without a work limitation. For example, 2005 statistics for any annual employment for people 25-61 indicate that nearly 48 percent of people with any disability were employed compared to roughly 27 percent for those with a work limitation. While no consensus was reached in these studies, the book editors suggest that people with work limitations should be included based on the idea that the ADA should enhance ability to work.

How to measure disability is the major topic of the second book (Houteville et al 2009), with a variety of suggestions. Recognizing this problem, the census bureau and BLS convened a working group to develop a series of questions used to indicate disability. The resulting 6 questions were included in the major government surveys from 2008 (CPS, SIPP, ACS) on and are rapidly becoming the standard for disability research. As documented in Stapleton, Livermore and She (2009, 385) questions are:

1. a. Is this person deaf or does he/she have seriously difficulty hearing?
   b. Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?

For persons over 5 years old:

2. a. Because of a physical, mental or emotional condition does this person have serious difficulty concentrating, remembering or making decisions?
   b. Does the person have serious difficulty walking or climbing stairs?
   c. Does the person have difficulty dressing or bathing?

For persons 15 years or over:

3. Because of a physical, mental or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping?

Levels of employment also vary among studies. The majority count any work during a year as employed, including people employed only briefly and part time. Since many people with disabilities work part-time or intermittently, this greatly inflates the percentage of people working consistently enough to contribute substantially to household income. For example, Weathers and Wittenberg (2009, 120) report that roughly 48 percent of people with disabilities worked at all in 2005 while only 24 percent worked full time.

Employment rates also vary depending on disability type, education and age. For the working age population (25-61) in 2005, employment rates for any annual work ranged from 57 percent for sensory impairments, 41 percent for physical impairments, 37 percent for mental impairments, 27 percent for work limitations and 24 percent for people that had difficulty with activities of daily living. For those working full time, those with sensory impairments had the highest employment rates (34 percent), compared to physical impairments (20 percent), mental impairments (15 percent), Activities of Daily Living (ADL) (9 percent), Instrumental Activities of Daily Living (IADL) (8 percent) and work limitations (8 percent) (Weathers and Wittenberg 2009, 120). Employment rates steadily increased with more education, ranging from 33 percent for people with disabilities without a high school diploma to 57 percent for those with more than high school. Education mattered even more for those working full time, with only 13 percent of those with less than high school working full time compared to 30 percent of those with more than high school education (Weathers and Wittenberg 2009, 121-122). Generally, younger people with disabilities were more likely to be employed and most disabled people dropped out of the labor force by 54. The same impact of education and age on employment was reported in all other studies reviewing these factors in this literature review.

Another task of these two volumes involved understanding the impact of policy on employment for people with disabilities. The impact of the ADA will be discussed in the next section. Stapleton and Burkhauser (2003) note that changes in eligibility for SSDI, the major income support program for people with disabilities, in the late 1980s led more people to leave employment for government support. The compilation of studies suggest that SSDI availability, combined with employment declines due to the recession in the early 1990s, led people with disabilities to permanently leave the labor force. The U.S. government has instituted a series of demonstration projects designed to encourage people on SSDI to work through allowing higher wages before losing benefits and continuing medical insurance. As discussed in the next section, these programs have so far shown limited impact on employment for the SSDI population.

The Rehabilitation Services Commission (RHA) commissioned Research Triangle Institute to conduct a longitudinal study of participants in government vocational rehabilitation services (Hayward 1998, Hayward and Schmidt-Davis 2003a, 2003b, 2005). The study followed 8,500

people who applied for voc rehab services through interviews and administrative records analysis for three years. Data collection started in 1995 and was completed in 2000. As such, the study tracks VR recipients who entered the program recently after implementation of the ADA. The study also looked carefully at 40 VR offices and their surrounding communities to determine what factors related to the local environment and VR service process impacted on employment outcomes.

Overall, 45 percent of study participants found jobs, with the majority staying employed for three years after placement. Most were employed in the competitive labor market (78 percent), with 22 percent in non-competitive jobs. The non-competitive group included both people working in such supported employment systems like sheltered workshops and disability agency work crews as well as homemakers and unpaid family workers. People with orthopedic disabilities, other physical disabilities, hearing impairments, learning disabilities and substance abuse were most likely to find jobs in the competitive labor market while those with mental retardation and vision impairments were most often placed in non-competitive jobs (report 1, 5-1).

The report reviewed a number of factors that influenced achieving employment. Participant characteristics included having a vision, hearing, mental retardation or orthopedic disability, good gross motor function and high self-esteem, working at application, number of dependents and being white. Self esteem was also noted as a key factor in job placements for people with disabilities using the Temporary Assistance for Needy Families (TANF) program, the current name for the welfare system and the workforce development systems (Hall and Parker 2010). Receiving SSI/SSDI significantly lowered the likelihood of finding work (report 1, 4-9). Services that impacted on finding work included the quality of the consumer/VR counselor relationship, receiving job placement, job development, supported employment or business/vocational training, and recipient of independent living, driver training or tools (report 2, 6-23). Cartwright and Kim (2006) examine counselor characteristics that would influence the relationship with consumers such as attitude toward people with disabilities, education levels and cultural factors. While these factors generally influence the relationship, their primarily Asian sample leads to limited generalizable results.

Job placement leads to the most jobs in the voc rehab study, with nearly 63 percent exiting the program with employment. Despite the importance of job development and related services, only a small percentage of program participants received these services. Overall, roughly 11 percent received job placement, 10 percent job development, 7 percent supported employment, 7 percent job search training and 4 percent on the job training (report 2, 3-19). Figures were slightly higher for education services, with 16 percent receiving business/vocational training, 12 percent entering 2 year college and 10 percent in four year college programs (report 2, 3-30).

For those finding work, types of jobs clustered in three categories: professional, managerial and technical (25 percent at program exit), service (24 percent at program exit) and clerical/sales (25 percent at program exit). By three years after completing VR services, the percentage in professional, managerial and technical jobs had increased to roughly 35 percent while service had stayed the same and clerical/sales had decreased to 18 percent (report 2, 6-6). Most were working full time, with a median of 40 hours per week and an average of 34 hours per week (report 2, 6-11). However, wages were low, with median wages of $6.30 per hour at exit for

those in competitive employment, only increasing to $8.00 in three years while those in non-competitive employment earned less than $5.00 per hour. These wage levels did not vary much from people who did not receive VR services but applied for the program (report 2, 6-8).

A more recent study of occupation type for VR users showed similar findings (Boutin 2010). Reviewing outcomes data in the entire VR database for fiscal year 2007 (October 2006 through September 2007), the study found that 34 percent exited VR with an employment outcome. The study noted the same three employment clusters, with 29 percent in service occupations, 24 percent in sales and office, and 18 percent in management, professional and related occupations (18 percent). Large percentages were also employed in transportation and material moving (17 percent) and natural resources, construction and maintenance (9 percent). Looking more closely at specific jobs, most found jobs in food preparation and service (10 percent), building and grounds cleaning and maintenance (8 percent) and office and administrative support functions (16 percent) like filing and copying (Boutin 2010, 36). This suggests that VR program recipients are still being placed in the same kinds of jobs traditionally held by people with disabilities: cleaning, food preparation and grounds maintenance. While an increasing percentage are moving into office work, they are placed primarily in lower level jobs.

American Community Survey data from the same time period shows similar results. A data note on survey outcomes found people with disabilities over-represented in production, transportation materials moving, and service occupations and under-represented in professional, management, business and financial occupations. Major job categories were building and grounds cleaning and maintenance (10.8 percent), transportation and materials moving (8.8 percent), personal care and service workers (8.6 percent), production (8.5 percent) and healthcare support (8.1 percent) (Smith and Clark 2007).

Several other studies use different data sources to address similar issues. Smith (2007) used a survey conducted by the National Organization on Disability to explore the relationship of different illnesses and disabilities on employment. The study found that 32 percent of people with disabilities were employed, with activity limitations and needing help with personal care and routine needs most predictive of unemployment. Hall and Parker (2010) report on studies of people in the Temporary Assistance to Needy Families (TANF) program as well as people using the workforce development system through on stop centers created under WIA legislation. The study notes that 29 percent of TANF recipients were disabled, but focuses primarily on the role of self-esteem in employment outcomes.

Other studies focus on outcomes for people with specific disabilities. Three studies on people with developmental disabilities and asperger syndrome (Barnhill 2007, Gardner and Carran 2005) report that employment is important for this population and that malemployment – or employment below potential skill levels is common, but offer few details on employment outcomes. Migliore and Butterworth (2008) explored outcomes for people with developmental disabilities in the VR system between 1995 and 2005. They note that employment levels declined for this population once sheltered workshops and other extended employment outcomes were no longer considered employment outcomes. In 2005, 39 percent had found employment in the competitive market, with most working part-time (average hours 26.5 per week) and earnings of $200 per week (Migliore and Butterworth 2008, 38-39). Lawer, Busilovskiy, Salzer

and Mandell (2008) focused on experiences of people with autism in the voc rehab system, focusing on the VR national database for 2005. They found that people with autism were more likely than those with other disabilities to be denied service because their disabilities were too severe to benefit from the program. However, for those accepted into VR, employment levels were higher for those with autism (42 percent), than people with mental retardation (39 percent), learning disabilities (38 percent), and other disabilities (35 percent). People with autism who found jobs benefited from services while working like job coaching and related job retention services.

Boutin (2010b) performed a similar analysis of occupational titles from the FY 2007 VR database for people who were deaf or hard of hearing. This study found that 28 percent found jobs in management, professional and related categories, 21 percent in service, 26 percent in sales and office occupations, 9 percent in natural resources, construction and maintenance and 16 percent in production, transportation and material moving jobs. However, people who were hard of hearing were more likely to find professional and managerial jobs than those who were deaf. Those who were deaf were over-represented in service occupations, despite most having a high school diploma or more. Generally, the study suggests that those who were deaf were more likely to be employed in jobs below their potential education and skill level.

Reviews of return to work for people with spinal chord injuries or other wheel chair users place the employment rate for this population at 30 percent (Lidal, Huyn, and Biering-Sorensen 2007, Ville and Winance 2006). Through a comprehensive overview of international studies of people with spinal chord injuries, Lidal, Huyn, and Biering-Sorensen (2007) found that the most successful return to work is seen in those injured at younger ages, with less severe injuries, and higher functional independence. They note that employment rates improve with longer times after the injury. They note six factors influencing successful return to work: 1) positive organizational climate in the workplace, 2) practical assistance to facilitate job search, 3) emphasis on job seeker's personal preferences, strengths and beliefs in workplace supports, 4) rapid assistance, 5) flexible and individual support, and 6) on the job experience (Lidal , Huyn, and Biering-Sorensen 2007, 1352-1355). Ville and Winance (2006) provide a detailed look at motivations for choices to work or not for wheel chair users, noting the sometimes more time to consider career options is better than rapid return to a previous employer. They emphasize personal choice in professions and the need for disability support systems to allow access to the career path of choice.

Taken together, these studies demonstrate consistent low employment levels for people with disabilities and a decline in employment since the 1990s. They also suggest that people with more education and disabilities that impact less on daily functioning have a better chance of finding jobs. The data on types of employment shows people with disabilities in a range of jobs, but over-represented in service, cleaning and office support jobs. Earnings are significantly lower for people with disabilities than the general population. Those focusing on factors influencing outcomes note that a positive relationship with a counselor, job placement services and support that reflects individual choices are important for successful outcomes.

Studies of Programs and Legislation to Improve Employment for People with Disabilities

These studies focus on several key environmental factors influencing employment for people with disabilities. These include legislation impacting discrimination and accommodations as well as the structure of government benefit programs (DeLire 2003, Blanck, Schwochau and Song 2003, Ireys, Gimm and Lui 2009, Jolls and Prescott 2005, Livermore and Goodman 2009). Studies also look at strategies to improve services in government-sponsored programs (Brady et al 2010, Cartwright and Kim 2006, Gervey et al 2009). Another set of studies look at employer strategies regarding employing people with disabilities (Rogan, Banks and Howard 2000, Habeck et al 2008, Hagner 2003, Interagency Committee on Workers with Disabilities 2007).

Several studies debate the impact of the ADA on employment levels for people with disabilities. DeLire (2003) argues that employment rates are down because employers are reluctant to hire people with disabilities due to the potential costs of accommodations and legal costs if disabled workers are fired. Blanck, Schwochau and Song (2003) dispute this claim, discussing a number of studies showing positive and negative influence of the law on employment. They conclude that flaws in the assumptions about the economic data used for analysis makes it impossible to conclude impact from the ADA. Jolls and Prescott (2005) compare employment differences before and after ADA implementations with states that had state legislation similar to ADA, anti-discrimination law but no requirements for accommodations, and no protections for people with disabilities. Their research suggests that the ADA might have impacted on hiring but not firing disabled workers. That said, none of these studies present overwhelming evidence regarding the impact of the law on employment. In their comprehensive overview of evaluations of legislation and programs to assist people with disabilities Livermore and Goodman (2009, 21-23) describe the result of multiple studies on ADA impact as "mixed." The conclude that:

> …there is evidence that people with disabilities are experiencing less discrimination and greater accommodations on the job, but they do not appear to be experiencing increases in hiring. …Many people with disabilities, employers and businesses still do not understand major provisions of the ADA, particularly employment provisions, and that lack of understanding is reducing the effectiveness of the legislation (Livermore and Goodman 2009, 23).

Another policy strategy involves allowing people with disabilities to buy into Medicaid in order to remove lack of medical insurance as a barrier to employment. Ireys, Gimm and Lui (2009) examine the effects of five different forms of Medicaid and Medicare buy in programs in 32 states, concluding that these programs have increased coverage, particularly for people aged 40-60. Their analysis concludes that higher earned income limits, exclusion of spousal income in eligibility determination, work verification, and strict grace periods for time not working while receiving insurance encourages employment.

Another set of studies target initiatives to improve use of the U.S. workforce development system by people with disabilities. Since passage of the Workforce Investment Act (WIA), training and employment support is provided in one-stop centers, which bring together agencies involved in job development, training and related services at a single location. However, most of these centers are self-service facilities with little evaluation of incoming clients and assistance in

using programs. Policy makers have recognized that people with disabilities generally need more assistance in using these systems and that one stop staff tend to send them to the voc rehab system instead of encouraging their use of WIA services. Funding has been provided for "navigators," people to assist people with disabilities using the one stop systems. Gervey, Gan and Costello (2007) and Gervey et al (2009) describe two models for these interventions. An intensive case management system involving both one stop counselors and agencies serving people with disabilities did make a significant difference for the small number of people served by this program. An effort to provide training on disability to one stop counselors had mixed results, with most one-stop practices remaining unchanged and consistently low satisfaction scores from people with disabilities before and after training was conducted with one stop staff.

Livermore and Goodman (2009) provide an overview of most federal legislation and program efforts to improve employment for people with disabilities. They review 27 initiatives including four major pieces of legislation (ADA, Balanced Budget Act, Ticket to Work Act and Incentives Improvement Act, Workforce Investment Act) and evaluations of a number of federally funded demonstrations and program initiatives focused on this issue. The review reports on both the factors assumed to influence low employment levels and study outcomes. It provides a detailed overview of each of the programs reviewed. They identify the following barriers to employment (Livermore and Goodman 2009, 11-12):

- Poor health or functioning limiting the ability to engage in work or reducing the level of productivity
- Inadequate education, skills, training, or job-related experience
- Lack of reliable transportation to and from work
- Lack of specific supports needed while at work, or at home to prepare for/enable work
- Loss of public or private cash and in-kind benefits as earnings and assets increase
- Inaccessible workplaces and inflexible employment situations
- Costly accommodations
- Fear of discrimination and employer misconceptions of disability
- Discrimination and employer misconceptions of disability
- Lack of information about individual abilities and productivity
- Insufficient wages or benefits offered with employment
- Lack of information about employment-related supports and resources available
- Lack of information about the impact of work on cash and in-kind benefits
- Inadequate job search and interview skills or information

Most of the interventions focus on three areas: 1) attempts to encourage employment through reducing discrimination and providing tax credits for employers to pay for accommodations, 2) efforts to encourage system integration across the various agencies providing services to people with disabilities, and 3) initiatives to reduce government benefit use by reducing disincentives to

work in SSDI by allowing higher income levels and not reducing health care benefits, or providing health care and other services to people with disabilities. Some of these initiatives include access to training and job placement services combined with other measures.

The authors conclude that most interventions focus on the individual or system change. The system change initiatives attempt to integrate services or combine health and vocational supports, but since state and local governments are responsible for providing most services the onus for change lies with them. Most initiatives present small changes to the status quo and few are preventative. They note that while system change initiatives are moving forward, only small changes have been made in employment levels and programs to address employment. They call for bold initiatives that intervene early in the disability process to encourage employment and provide incentives for collaboration across programs.

Several studies look at employment supports like job coaches. Brady et al (2010) report that in several studies people with disabilities, primarily people with developmental disabilities, consistently rated their performance higher and their need for supports lower than either supervisors or teachers in work development programs. This suggests that both support systems and supervisors need to be clear regarding expectations. Rogan, Banks and Howard (2000) reviewed the literature on supported work, focusing on four exemplary programs to identify successful strategies. They noted that support program staff in successful initiatives developed long term relationships with employers and chose workplaces with a positive and supportive workplace culture. Attributes that contributed to successful programs were: 1) program leaders articulated a clear vision, 2) organizations had a track record of innovation and risk taking, 3) staff were well trained, professional and committed, 4) staff demonstrated strong collaboration and team work, 5) staff created long term relationships with business, 6) identifying good job matches and positive work environments, 7) supported employment employees were paid minimum wage or above, with a focus on finding good paying jobs with benefits, 8) use of natural supports (relying on co-workers and others in the workplace) to guide employees with disabilities, 9) commitment to continue working with people if they lost jobs (Rogan, Banks and Howard 2000, 9).

The remainder of the articles in this section focused on employers. In 2006, the Interagency Committee on Disability Research convened a national summit on employment that brought together business representatives, government agency representatives and experts on disability employment. The report from this conference noted that agencies working with people with disabilities need to generate demand for employing people with disabilities by showing how hiring people with disabilities will have positive impact on business profits and developing positive marketing campaigns. The summit noted that research on employers was extremely limited, but reported that a recent study found that only 26 percent of employers hired someone with a disability and that 20 percent of employers said that the greatest barrier was “their own discrimination, prejudice or reluctance” (Interagency Committee on Disability Research report 2007, 31). The report called for qualitative research on employer practices as well as quantitative studies.

Habeck et al (2008) developed a comprehensive literature review on the research on employers hiring people with disabilities. Much of this research focused on return to work for people

disabled while already working. However, they noted different issues for people with different kinds of disabilities, including people with congenital disabilities. They identified seven major factors influencing positive outcomes:

1. Business policies:
    a. Positive organizational culture
    b. Policies and programs for employee retention

2. Policies to maintain the health and wellness of all employees, including rapid intervention policies

3. Early and effective return to work policies to enable disabled workers to return to their jobs. These include ongoing communication between employer, employee and physicians and other involved in the return to work process as well as effective accommodations.

4. Developing a systematic process to provide accommodation to newly hired employees with disabilities which is flexible and meets the needs of employee and workplace

5. Working with supervisors to ensure they understand disabilities and provide positive supports to employees with disabilities

6. Managing co-worker involvement to ensure that co-workers do not resent employees with disabilities and provide positive supports to their disabled co-workers.

7. A positive attitude toward the employer, co-workers and offered supports by the employee with disabilities.

The study ended by calling for additional research focused on employer practices that encourage retention of employees with disabilities as well as general employer research.

Hagner (2003) focused more closely on co-worker relationships, noting that disability harassment on the job was the third most common complaint to the EEOC. Through a review of existing literature, the study noted that co-workers resent accommodations if they perceive them as unfair to themselves because they add to their own duties or appear to create an unequal work load in the work group. Successful strategies for addressing co-worker resentment included management explaining the need for accommodations to co-workers and encouraging positive relationships with co-workers.

These studies of the environment for employment and available government sponsored support systems suggests that much more work needs to be done to understand the workplace environment and motivate employers to hire people with disabilities. While consistent evaluations of government initiatives exist, these studies uniformly show people with disabilities employed at low wages in a limited range of jobs. Programs to encourage employment do make a difference, but they need more coordination with stronger efforts to yield better employment

outcomes. The final section of this review outlines studies that have identified strategies to enable employment of people with disabilities.

Studies focusing specifically on strategies to improve employment outcomes

Articles in this final section draw on the findings regarding employment levels, programs and employer factors to focus specifically on strategies that improve employment outcomes. About half focus on environmental factors while the remaining studies identify personal attributes among people with disabilities that lead to successful employment. While most draw on larger lit reviews, most report on individual research projects.

Studies focusing on environmental factors address government initiatives for people with disabilities, workplace responses and advice from health care providers and others working with people with disabilities. Young (2009) focused on the experience of people who used Massachusetts voc rehab system before they entered that system. A little under half of her sample was employed after becoming injured but before they received voc rehab services. Fifty-five percent attempted to return to their pre-injury employer, with about half of that group working at the pre-injury workplace again. The majority who did not return to work or left jobs stated environmental factors that influenced their decisions. These included lack of encouragement from the former employer and experiences at the workplace. However, the most important factor was advice from a health care practitioner that they were not ready to return to work. In some cases, lawyers discouraged injured people from returning to a former employer due to outstanding claims against that company.

Timmons et al (2011) used qualitative interviews with people with intellectual disabilities, their families, job coaches and others to determine factors influencing choosing employment in the community. This study also found that the people and systems working with the person with an intellectual disability powerfully influenced choices to work and ability to work in the community. Family served as key role models encouraging people with disabilities to work and indicating the importance to work. Teachers often provided the first opportunity for people with IDD to work, but the study noted that connections between teachers and the employment system needed to be stronger. Comparing the activities of agencies serving people with disabilities and job developers, the study found that the philosophy of the agency significantly influenced when and where people worked, regardless of their own choices. Agencies offering sheltered workshops or work crews often expected people with disabilities to meet criteria for job readiness and work in sheltered environments before finding community jobs. Some of the people with disabilities complained that they were wasting time in these make work jobs rather than moved toward "real" jobs. In contrast, agencies focusing on community employment moved people into competitive employment much more quickly. The study found that job developers were the primary person finding jobs and influencing people with disabilities to take particular jobs, suggesting that job developer quality is a powerful issue in employment outcomes. Finally, ability to form social relations with co-workers influenced successfully maintaining employment as well as willingness to leave sheltered workshops.

Chan et al (2005) performed a statistical analysis designed to determine factors that improved employment outcomes on the national vocational rehabilitation database for 2001 for people with

orthopedic disabilities. The authors used a sophisticated statistical procedure called CHAID that clusters participants with similar characteristics and analyzes factors that led to different outcomes among groups. Fifty-six percent of participants in this study found jobs during that fiscal year. The group that had the highest probability of employment were women with no work disincentives (primarily receipt of SSDI or other payments), no transportation barriers, and received counseling, university training and job placement. The factor that made the most difference in finding employment was receiving job placement services, echoing findings of the larger longitudinal study of the voc rehab system performed by RTI. Chan et al (2005) found that people who had job placement support were 2.6 times more likely to find work than those who did not receive this service. The greatest disincentive to finding employment was receipt of SSDI.

Issue 34 of the *Journal of Vocational Rehabilitation* published findings from the federal Demonstration to Maintain Independence and Employment (DMIE), designed to prevent unemployment and discourage use of SSDI by people with disabilities. In an overview of the papers in this issue, Ireys and Wehman (2011) report that bridging the two sectors of health and employment supports was critical to successful outcomes. Both medical supports and employment assistance proved equally important services.

Luecking (2011) reviewed the literature on employer responses to people with disabilities, noting that willingness to employ people with disabilities comes from direct positive experience with workers with disabilities, combined with agency staff who present employment as meeting employer needs and offer appropriate supports to employees with disabilities and their employers to ensure employment. The article is quite critical of campaigns to increase employer awareness of disability or enhance employment through referring to attributes of people with disabilities as a potential workforce. The article noted that employers find the disability employment system daunting. Following this critique, the study discusses customized employment development such as activities conducted by project search. This involves a job developer identifying an industry that a person with a disability would like to work on, finding employers with operational needs and crafting a job for the person with disabilities that meets those operational needs. In essence, this process creates new jobs when no opening existed by carefully matching employee and employer needs. While considered successful, it is unclear how often creating new positions is possible in the labor market.

Studies of individual factors focused primarily on self-efficacy: a person's judgment of his or her own ability to plan, organize and use skills to achieve a particular outcome. Self-efficacy appears to combine self-confidence with a rational understanding of personal ability and persistence toward a given goal. Proponents of self-efficacy believe it is an essential ingredient for successful employment for people with disabilities. Hergenrather et al (2008) tested two scales designed to measure self-efficacy and job interview skills on a sample of people with a wide range of disabilities. They describe self-efficacy as multi-dimensional, focusing on factors related to job seeking, disclosing disability in the workplace and social support. People who believed in their job seeking skills also tended to have significant relationships or other forms of social support. Comfort with disclosing disability remained more of a challenge.

Madaus and colleagues (Madaus, Zhao and Ruban 2008, Madaus, Gerber and Price 2008) discuss self-efficacy for people with learning disabilities. Madaus, Gerber and Price (2008) examined three areas influencing the experience of people with learning disabilities in the workplace: knowledge of the ADA, realities of workplace self-disclosure and self-efficacy. Reviewing studies on ADA knowledge they found that most people with learning disabilities were unfamiliar with the ADA and that employers were confused about ADA and employment, finding learning disabilities more perplexing than physical disabilities. They reported that people with LD hesitated to disclose their disabilities in the workplace, even when they affected their work. Only a small percent requested accommodations.

These studies clarify the concept of self-efficacy as it applies to successful careers. Self-efficacy involves goal setting and ability to reframe the disability in a positive manner. Successful people understood their strengths and weaknesses and could clearly describe them to others. They also believed that they had the power to control their own lives and were flexible enough to capitalize on opportunities when they arose. Less successful people were more passive. Other self-efficacy strategies included finding a goodness of fit between jobs and skills as well as time management skills and working longer hours to accommodate disabilities (Madaus, Gerber and Price 2008, 150-151). Madaus, Zhao and Ruban (2008) also found that self-efficacy improved job satisfaction.

Another closely related concept is self-determination: actions that enable acting as a primary causal agent to maintain or improve quality of life (Devlin 2011). While self-efficacy presumes self-determination, the creativity and flexibility characteristic of self-efficacy may not be part of a person capable of self-determination. Devlin (2011) describes a tool and process called the *self-determined career model* to develop self-determination and improve work performance. The model involves the person with disabilities setting goals and then working with a trainer to achieve them. The tool measures performance before and after training. The study describes a test of this method on men with mild to moderate intellectual disabilities working as janitors. While very effective, the tiny sample size (4 people) means that this method would need further testing with a larger group of people with a wider array of disabilities and types of employment before it is adopted widely. However, the model may deserve attention as one tool in program development.

In contrast, Carrier (2007) sees successful employment as a co-adaption process where the person with disabilities and others in the workplace develop an ongoing adaptation process. The goal is social integration – mutual adjustment between the person with disabilities and those around him or her. Focusing on people with developmental disabilities, a group with more severe and visible disabilities than those in the self-efficacy studies, she found that co-adaption mostly involved adjustment from their colleagues. Adjustment involved discovering the strengths and strategies for success that worked for the person with disabilities.

This group of studies suggests that environmental factors like workplace understanding of disability and willingness to accommodate people with disabilities remain important, regardless of personal attributes. That said, self-efficacy does appear an important factor in employment success. These studies also highlight the importance of job placement in employment outcomes.

They also show that availability of benefits such as health insurance and input from health providers influence employment outcomes.

Identifying Factors that Lead to Successful Employment for People with Disabilities

The employment picture for people with disabilities shows that employment levels have declined since 1990 with few concrete explanations for this trend. The only consistent finding is that people who use SSDI are less likely to seek work than people without these benefits. Explanations vary for this trend, including concerns about losing income and health care benefits and the fact that given that people need to prove that they can not work to receive SSDI, this may represent either people with more severe disabilities or people unwilling to try working again after the long ordeal of qualifying for benefits. Government has instituted a number of initiatives to address these issues, so far with limited success. One trend only mentioned briefly in these studies is the impact of de-institutionalization and changing expectations of people with disabilities on these statistics. Are levels of employment lower because a much larger pool of people with disabilities are now seeking jobs than ever before?

Another uniform observation across this research is that many employers do not understand the ADA and that day to day compliance with the ADA is uneven. This may account in part for a tendency noted in several studies for people with disabilities to hesitate to disclose disabilities or ask for accommodations. Few studies offer suggestions on ways to address this issue.

Several themes run through these studies of employment for people with disabilities that impact on employment outcomes:

- **Employment levels vary significantly depending on type of disability.** Overall, this research suggest that different strategies may be most effective given the type of disability. For example, while self-efficacy appears important for people with higher intellectual capacity, supported work strategies make a difference for people with mental retardation, autism and related developmental disabilities. Technology may make a difference for some populations rather than others.

- **Education and age influence employment.** These studies uniformly show that people with more education are more likely to be employed, particularly in full time jobs. Several authors suggest that low education levels for many people with disabilities may influence their outcomes. Younger people are more likely to seek employment, while people disabled when they are older more often drop out of the labor market. As education increasingly improves for people with disabilities, employment levels overall may change. However, continued reports that people with disabilities are employed below their skill levels suggest problems with the systems to move people into the workforce and continued discrimination. Addressing these issues may be an important factor in developing successful careers for people with disabilities.

- **Employment for people with disabilities tends to cluster in management, professional and technical, service sector, and sales and office occupations.** Within these categories, people with disabilities are over-represented in cleaning, food service and office support

functions. A number of factors appear to contribute to these trends. Expectations of employers and job developers influence job placements. Widening the employment possibilities for people with disabilities may involve a combination of changing employer and the general public's expectations of people with disabilities, changes in job placement systems, and broadening education and skills training for people with disabilities.

- **Research on business is limited, but suggests that a number of workplace factors influence employment outcomes.** Studies of all aspects of employment for people with disabilities report that a positive workplace culture, supportive supervisors, and lack of resistance from co-workers are important factors for successful careers. Looking more carefully at strategies to improve employers' role in supporting employees with disabilities would be important in part of a general effort to improve employment.

- **Disability employment systems need to focus on employer needs in addition to job readiness.** Multiple studies noted that vocational rehab and agency employees focused on job development emphasize soft skills while employers look for ability to perform needed tasks and enhance their bottom line. Studies also note differences in language between employers and agency workers that need to be overcome. The review suggests that a shift in focus is needed for disability workforce development system toward meeting employer needs and possibly more use of customized job development.

- **Disclosing disability is difficult and may influence hiring and retention trends.** A number of studies report that people with disabilities are unclear about how and when to disclose disabilities as well as significant problems with employers and co-workers understanding of ADA and appropriate accommodations. Addressing this issue would be an important part of any project involved with employment for people with disabilities. It is also an issue requiring much additional research.

- **Job placement is an essential component of employment development strategies.** Multiple studies show that people with disabilities that receive job placement services are most likely to find jobs. Research also reports that under 20 percent of people with disabilities enrolled in the voc rehab system receive this service. General research on employment suggests that a number of strategies that involve friends, family, educational institutions and agencies assisting job seekers through contacts to employers similar to job development remain key to finding work. Looking more carefully at the role of job development, ways to increase the use of job development in programs, and the types of jobs found by job developers would be an important part of both employment development programs and future research.

- **Self-efficacy and self-determination play an important role in successful careers**. Several studies identify self-efficacy – understanding personal strengths and weaknesses, interpreting disability in a positive manner, confidence in skills and abilities, and an ongoing ability to plan, organize, develop strategies and work toward goals – as an important personal attribute among people with disabilities with successful careers. Self-determination is a closely related concept. Exploring the role of self-efficacy and self-determination for people

with a wide range of disabilities and understanding how it is developed could enhance employment for people with disabilities.

This literature review is designed to provide context and direction for potential research on people with disabilities with successful careers. It highlights that exploring both environmental factors and personal factors would be important in a future study. Environmental factors would include looking at the role of government assistance systems, educational systems, disability systems, and supports from family and friends in preparing people with disabilities for work and influencing their choices. Health care providers and others involved in understanding disability limitations also play an important role in individual choices. Identifying employer responses to job seekers and workplace experiences would be another important issue. Examining strategies to find work and whether informal or formal programs assisted in this process crosses both personal and environmental factors. A variety of personal strategies associated with self-efficacy also appear important in successful careers. Looking for aspects of self-efficacy and ways it develops would be another important aspect of future studies.

In addition to outlining results from current research, the articles in this literature review uniformly called for additional research. A number called for more qualitative studies looking closely at career development, employment experience and the employer role in employment. For example, Kruse and Schur (2003, 296) advocate that "an ideal research project would follow individuals over time, independently recording medical conditions and impairments, as well as ability to work, as people gain and lose jobs and labor markets become tighter or looser." While a retrospective study like the one proposed here does not provide the objective observations of a long-term longitudinal study, it can go a long way toward reaching this goal. Likewise, studies of employers advocate gathering different types of qualitative data and developing uniform case studies (Interagency Committee on Disability Research 2007, 43). A life history study can contribute toward gathering employer data as well.

Overall, the research suggests paying attention both to the experience of individual lives and the larger labor marker and policy context that influences that experience would be an important strategy for future research. Ensuring that the research includes people with a wide range of disabilities would also be important. Finally, given differences related to education and skills, including people with a range of educational backgrounds and career choices would also prove essential.

References Cited

Barnhill, Gena (2007) Outcomes in Adults with Asperger Syndrome. *Focus on Autism and Other Developmental Disabilities* 22 (2), 116-126.

Blanck, Peter, Schowau and Song (2003) Is it Time to Declare the ADA a Failed Law/ in Stapleton, David and Richard Burkhauser, editors *The Decline in Employment of People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 301-338.

Boutin, Daniel (2010) Where Vocational Rehabilitation Consumers Work According to Standard Occupational Classification System. *Journal of Rehabilitations* 76 (3), 32-39.

-- (2010b) Occupational Outcomes for Vocational Rehabilitation Consumers with Hearing Impairments. *Journal of Rehabilitations* 76 (3), 40-46.

Brady, Michael, Mary Lou Duffy, Michael Frain, Jessica Bucholz (2010) Evaluating Work Performance and Support Needs in Supported Employment Training Programs: Correspondence between Teachers' Ratings and Students' Self-Ratings. *Journal of Rehabilitations* 76 (3), 24-31.

Carrier, Suzanne (2007) Understanding Social and Professional Integration as an Adjustment Process: Contribution to a Theory of Coadaptation. *Intellectual and Developmental Disabilities* 45 (1), 10-22

Cartwright, Brenda and Bryan Kim (2006) Selected Factors Associated with Quality Employment Outcomes. *Journal of Rehabilitations* 72 (3), 41-47.

Chan, Fong, Gladys Cheing, Jacob Chan, David Rosenthal, Julie Chronister. (2005) Predicting Employment Outcomes of Rehabilitation Clients with Orthopedic Disabilities: a CHAID analysis. *Disability and Rehabilitation* 28 (5), 257-270.

De Leire, Thomas (2003) The Americans with Disabilities Act and the Employment of People with Disabilities. in Stapleton, David and Richard Burkhauser, editors *The Decline in Employment of People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 259-278.

Devlin, Patricia (2011) Enhancing Job Performance. *Intellectual and Developmental Disabilities* 49 (4), 221-232.

Gardner, James and Deborah Carran (2005) Attainment of Personal Outcomes by People with Developmental Disabilities. *Mental Retardation* 43 (3), 157-174.

Gervey, Robert, Ni Gao, Donna Tillman, Karen Dickel, Jim Kneibuehl (2009) Person Centered Employment Planning Teams: A Demonstration Project to Enhance Employment and Training Outcomes for Persons with Disabilities Accessing the One Stop Career Center System. *Journal of Rehabilitations* 75 (2), 43-49.

Gervey, Robert, Ni Gao and Leslie Costello (2007) Gloucester County One-Stop Project: Results of Staff Training on Customer Satisfaction and Employment Outcomes for Persons with Disabilities. *Journal of Rehabilitations* 73 (3), 10-17.

Gimm, Gilbert, Henry Ireys, Boyd Gilman and Sarah Croake (2011) Impact of Early Intervention Programs for Working Adults with Potentially Disabling Conditions: Evidence from the DMIE Evaluation. *Journal of Vocational Rehabilitations* 34, 71-81.

Habeck, Rochelle, Satoko Crockett, Colleen Rachel and John Kregel (2008) *Organizational Factors that Facilitate Successful Job Retention of Employees with Health Impairments and*

Disabilities. Richmond, VA: Virginia Commonwealth University Rehabilitation, Research and Training Center on Workplace Supports and Job Retention.

Hagner, David (2003) What we Know about Preventing and Managing Coworker Resentment and Rejection. *Journal of Applied Rehabilitation Counseling* 34 (1), 25-30,

Hall, Jean and Kathy Parker (2010) Stuck in a Loop: Individual and System Barriers for Job Seekers with Disabilities. *The Career Development Quarterly* 58, 246-256.

Hayward, Becky (1998) *Longitudinal Study of the Vocational rehabilitation Services Program, Third Interim Report: Characteristics and Outcomes of Former VR Consumers with an Employment Outcome.* Washington DC: U.S. Department of Education, Office of Special Education and Rehabilitation Services, Rehabilitation Services Administration. www.edpubs.org.

Hayward, Becky and Holly Schmidt-Davis (20030 *Longitudinal Study of the Vocational rehabilitation Services Program, Final Report 1: How Consumer Characteristics Affect Access to, Receipt of and Outcomes of VR Services.* Washington DC: U.S. Department of Education, Office of Special Education and Rehabilitation Services, Rehabilitation Services Administration. www.edpubs.org.

-- (2003) *Longitudinal Study of the Vocational rehabilitation Services Program, Second Final Report: VR Services and Outcomes.* Washington DC: U.S. Department of Education, Office of Special Education and Rehabilitation Services, Rehabilitation Services Administration. www.edpubs.org.

--(2005) *Longitudinal Study of the Vocational rehabilitation Services Program, Third Final Report: The Context of VR Services.* Washington DC: U.S. Department of Education, Office of Special Education and Rehabilitation Services, Rehabilitation Services Administration. www.edpubs.org.

Hergenrather, Kenneth, Andrew Turner, Scott Rhodes, Julie Barlow (2008) Persons with Disabilities and Employment: Application of the Self-efficacy of Job-seeking Skills Scale. *Journal of Rehabilitations* 74 (3), 34-44

Houtenville, Andrew, David Stapleton, Robert Weathers and Richard Burkhauser (2009) *Counting Working Age People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Interagency Committee on Disability Research (2007) *Employer Perspectives on Workers with Disabilities: A National Summit to Develop a Research Agenda.* Washington DC: ICDR, www,icdr.us.

Ireys, Henry, Gilbert Gimm and Su Lui (2009) The Effects of State Policy Decisions on the Employment and Earnings of Medicaid Buy in Participants in 2006. *Journal of Disability Policy Studies* 20 (3), 142-154.

Ireys, Henry and Paul Wehman (2011) The Evaluation of the Demonstration to Maintain Independence and Employment. *Journal of Vocational Rehabilitations* 34, 67-69.

Jolls, Christine and JJ Prescott (2005) *Disaggregating Employment Protection: the Case of Disibility Discrimination.* Working Paper: ?.

Kruse, Douglas and Lisa Schur (2003) Does the Definition Affect the Outcome? in Stapleton, David and Richard Burkhauser, editors *The Decline in Employment of People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 279-300.

Lawer, Lindsay, Eugene Brusilovskiy, Mark Salzer, David Mandell (2009) Use of Vocational Rehabilitation Services Among Adults with Autism. *Journal of Developmental Disorders* 39, 487-494.

Lidal, Ingeborg, Tuan Khai Huyn, Fin Biering-Sorenson (2007) Return to Work Following Spinal Chord Injury. *Disability and Rehabilitation* 29 (17), 1341-1375.

Livermore, Gina and Nannette Goodman (2009) *A Review of Recent Evaluation Efforts Associated with Programs and Policies Designed to Promote the Employment of Adults with Disabilities.* Ithaca: Rehabilitation Research and Training Center for Employment Policy for Persons with Disabilities at Cornell University.

Luecking, Richard (2011) Connecting Employers with People who have Intellectual Disability. *Intellectual and Developmental Disabilities* 49 (4), 261-273.

Madaus, Joseph, Paul Gerber and Lynda Price (2008) Adults with Learning Disabilities in the Workforce: Lessons from Secondary Transition Programs. *Learning Disabilities Research and Practice* 23 (3): 148-153.

Madaus, James, Jairong Zhao, Lilia Ruben (2008) Employment Satisfaction of University Graduates with Learning Disabilities. *Remedial and Special Education* 29 (6), 323-332.

Martorell, A P Gutierrez-Recacja, A Pereda and J.L Ayusa-Mateus (2008) Identification of Personal Factors that Determine Work Outcome for Adults with Intellectual Disability. *Journal of Intellectual Disability Research* 52(12), 1091-1101.

Migliore, Alberto and John Butterworth (2008) Trends in Outcomes of the Vocational Rehabilitation Program for Adults with Developmental Disabilities, 1995-2005. *Rehabilitation Counseling Bulletin* 52 (1), 35-44.

Rogan, Pat, Becky Banks and Michelle Howard (2000) Workplace Supports in Practice: As Little as Possible, as Much as Necessary. *Focus on Autism and Other Developmental Disabilities* 15 (1), 2-11.

Smith, Diane (2007) The Relationship of Type of Disability and Employment Status in the United States from the Behavioral Risk Factor Surveillance System. *Journal of Rehabilitations* 73 (2), 32-40.

Smith, F.A. and D.M. Clark (2007) *Disability and Occupation.* DataNote Series, Data Note XIII. Boston, MA Institute for Community Inclusion.

Stapleton, David and Richard Burkhauser (2003) *The Decline in Employment of People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Stapelton, David, Gina Livermore and Peiyn She (2009) Options for Improving Disability Data Collection. Houtenville, in Andrew, David Stapleton, Robert Weathers and Richard Burkhauser, editors *Counting Working Age People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 381-418.

Timmons, Jaimie, Allison Cohen Hall, Jennifer Bose, Ashley Wolfe and Jean Winsor (2011) Choosing Employment: Factors that Impact Employment Decisions for Individuals with Intellectual Disability. *Intellectual and Developmental Disabilities* 49 (4), 285-299.

Weathers, Robert and David Wittenberg (2009) Employment Houtenville, in Andrew, David Stapleton, Robert Weathers and Richard Burkhauser, editors *Counting Working Age People with Disabilities.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 101-144.

Ville, Isabelle and Myriam Winance (2006) To Work or Not to Work? The Occupational Trajectories of Wheelchair Users. *Disability and Rehabilitation* 28 (7), 423-436.

Young, Amanda (2009) Return to Work Experiences Prior to Receiving Vocational Services. . *Disability and Rehabilitation* 31 (24), 2013-2022.