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Evaluating the Effectiveness of Vocational Rehabilitation in Economic Outcomes for Adults with Disabilities

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Evaluating the Effectiveness of Vocational Rehabilitation in Economic Outcomes
for Adults with Disabilities

by

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MSW Clinical Research Paper

Presented to the Faculty of the
School of Social Work

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St. Paul, Minnesota
in Partial fulfillment of the Requirements for the Degree of

Master of Social Work

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The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University/University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

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Abstract

Employment rates are much lower among individuals with disabilities, and lower still for those with an intellectual or developmental disability (IDD). This study systematically reviewed a subset of existing research studies to determine how well vocational rehabilitation (VR) programs have affected economic outcomes for persons with intellectual and developmental disabilities (IDD). Findings demonstrate that while persons receiving VR services are more likely to obtain employment, only 18% are working competitively, often for minimum wage. Studies varied in how earnings were reported. Emergent themes include the prevalence of poverty, challenges with providing person-centered interventions, barriers to inclusion in integrated work settings, barriers to obtaining employment, and the lack of first-hand data from the recipients of VR services. Implications for social work practice, policy, and recommendations for future research are also discussed.

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Introduction

All employment is not equal. One goal of vocational rehabilitation (VR) is to provide positive economic outcomes for the people supported by these services. Too often employment is used as a shorthand measurement for these positive economic outcomes. Unfortunately, the employment obtained by people with disabilities often pays substandard wages and offers substandard working conditions.

Social workers have a goal of empowering clients to achieve positive economic outcomes and greater independence. Social work research too often has focused on outcome measures such as whether employment was obtained at all, without consideration of whether this employment met the needs of the people served by vocational rehabilitation interventions. Quality economic outcomes do not necessarily equate to whether a job is obtained or maintained.

Employment is viewed as one of the benchmarks for successful self-support and corresponds with quality of life and self-esteem, yet persons with intellectual and developmental disabilities are too often shut out of the labor market. A recent national Gallup study conducted for the Special Olympics found that only 34% of intellectually disabled adults are working, compared to 83% of non-disabled adults (Siperstein, Parker & Draschler, 2013). Similarly, the 2015 Disability Status Report found that the employment rate of working age people with disabilities was 35%, compared to 78% of working age adults without disabilities (Erickson, Lee & Von Schrader, 2016).

Those who do find work often do so through VR services, largely funded by state and federal government agencies. Millions of dollars are spent annually to ensure positive outcomes for individuals with disabilities to find and maintain employment. For example, \$43,139,000 was spent on VR grants in the state of Minnesota alone last year (U.S. Department of Education-

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Rehabilitation Services Administration, 2016). Despite that, the unemployment rate for adults with intellectual disabilities is more than twice that of the general population (Siperstein et al., 2013). Thirty-eight percent of employed people with disabilities are hired through sheltered workshops, which pay extremely low wages. Poverty among people with disabilities is not solely an issue of unemployment, but of discriminatory wage structures and antiquated programs.

Employers who hire people with disabilities via sheltered workshops are legally allowed to pay their employees a sub-minimum wage, sometimes mere pennies an hour. Under the Federal Labor Standards Act (FLSA) Section 14(c), the productivity of a disabled employee is compared to that of a non-disabled worker and allows for the disabled employee to be paid at a rate commensurate with an “average” worker. This legislation was passed in 1938 to ensure that veterans who had been physically disabled would have job opportunities when they returned from war. In 1990, the Americans with Disabilities Act (ADA) was passed, and workers with intellectual disabilities advocated to be included under this act to address employment discrimination. What resulted was a legal platform for wage discrimination and segregation of employees with disabilities. This outdated practice that segregates workers with disabilities and locks them into cycles of poverty also exploits individuals as cheap labor for the capitalist economy.

Social workers value the dignity and worth of all human beings, and as such need to consider the negative outcomes of well-meaning programs (NASW, 2008). Social workers play a valuable role in advocating for policy reforms to assist clients with disabilities empower themselves and achieve economic independence. As advocates, social workers are called to evaluate systems to ensure that they are functioning for the greatest good. It is in keeping with

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that philosophy that this research was conducted, with the aim to better understand how to more effectively serve people with intellectual and developmental disabilities in our communities.

The purpose of this study was to evaluate the extent to which VR programs have contributed to positive economic outcomes and self-support for people with intellectual and developmental disabilities (IDD). This study also considered VR program objectives and the extent to which these objectives match the needs of the disabled populations they serve. The research method used was a systematic review of existing research on vocational rehabilitation services.

In order to achieve this purpose, a literature review was first conducted. It includes an overview of definitions, a history of vocational rehabilitation, types of VR supports, the impacts of advocacy, the Employment First approach, and the changes resulting from the Olmstead ruling of 1999. This is followed by a chapter describing several lenses used by the researcher. Next, a chapter describing the method of data collection and analysis is presented. This is followed by a findings chapter noting the themes that emerged from this systematic review. This study concludes with a discussion of its findings, policy implications and suggestions for how VR services could be implemented to better align with the values of social work practice.

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Literature Review

This literature review begins with by defining terms commonly used in VR. A brief summary of the history of VR, including its origins, its role following deinstitutionalization, and how it has changed in light of such legislative changes as the Americans with Disabilities Act and the Olmstead ruling is then presented. Next, types of VR supports are identified, and the impacts of advocacy are discussed. This section concludes with an overview of the Employment First model for empowering employees with disabilities.

The literature shows a range of outcomes regarding employment; these studies are inconsistent, however, in their definition of “successfulness” (Moore, Harley & Gamble, 2004; Heyman, Stokes & Siperstein, 2016). Some studies state that supported employment improves outcomes in employment rate, but fail to look at whether wages are competitive (Dowler & Walls, 2014). Other studies look to competitive wages as a measure of successful outcomes, but are critical of supported employment programs as a means for clients to obtain these job placements (Wehman, Revell & Brooke, 2003). While some studies advocate for better quality standards to define the validity of supported employment services, others suggest large-scale policy reform as a means to end the segregation of disabled workers from the workforce (Schwab & Smith 1993; Hughes & Avoke, 2010; Bates-Harris, 2012).

Definitions

While the literature on vocational rehabilitation is extensive, the definitions used in the implementation of these programs are not consistent. Measures of VR efficacy are sometimes defined in terms of economic stability, but more often defined simply by short-term employment outcomes (Department on Disability Services, 2010; Fleming, Fairweather & Leahy, 2013).

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Vocational rehabilitation provides a range of services and uses several terms (sometimes interchangeably) which may not be familiar to those outside of VR. For this reason, key terms such as supported employment, sheltered workshop, work center, and competitive employment will be defined here.

One problem in comparing the findings of existing research on employment outcomes for people with disabilities is the conflated use of terminology and lack of uniform use of terms. Supported employment is an employment accommodation made for individuals with disabilities, often through enclaves (defined as groups of 6 or fewer employees with disabilities in an integrated setting) and/or job coaches. Supported employment was formed with the intention of creating opportunities for people who would otherwise not have been considered employable to find and maintain successful employment (Anthony & Blanch, 1987). The literature is conflicted as to whether supported employment has met those goals. According to the U.S. Department of Labor (2015), the term sheltered workshop is often used interchangeably with work center, and is a segregated environment that employs persons with disabilities.

Vocational Rehabilitation (VR) services are based on individual needs and more widely defined as any goods or services an individual might need to find and keep employment, such as assistive technology devices and services (Elliot & Leung, 2004). Vocational Rehabilitation can take place in a variety of settings, ranging from in-house workshops to supported employment in the community. Chan et al., (1997) define vocational rehabilitation as:

A dynamic process consisting of a series actions and activities that follow a logical, sequential progression of services related to the total needs of a person with a disability.

The process begins with the initial case finding or referral, and ends with the successful

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placement of the individual in employment. Many activities and developments occur concurrently and in overlapping time frames during this process.

These researchers go on to identify key outcomes of Vocational Rehabilitation services for persons with disabilities, namely: increased independence, client-driven choices, and gainful employment (Chan et al., 1997). While VR programs vary slightly in their approaches, these key outcome areas remain consistent across programs.

Vocational rehabilitation counselors close VR cases as “successful” (also known as Status 26) when an individual has achieved an employment goal consistent with his or her informed choice and the following conditions outlined by the Department on Disability Services (2010) are met:

The individual has achieved the employment outcome described in the Individualized Plan for Employment (IPE). The employment outcome is consistent with the individual's strengths, resources, priorities, concerns, abilities, capabilities, interests, and informed choice. The employment outcome is in the most integrated setting possible, consistent with the individual's informed choice. The individual has maintained the employment outcome for a period of at least 90 days (DDS, 2010).

An individual's VR case is closed as successfully rehabilitated with the status code of 26 when the conditions highlighted above are met. However, there is no data collected by VR staff following the 90-day window following a “successful” job placement. Therefore, accurate information on the longevity of employment for adults with disabilities is not available in the data maintained by VR services.

Competitive employment is defined as employment in an integrated setting, in which individuals with IDD work alongside workers without disabilities and earn at least minimum

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wage; this is the goal of many VR interventions (Heyman et al., 2016). Despite this goal, recent statistics show that only 18% of adults with intellectual disabilities are working competitively (Siperstein, Parker & Draschler, 2013).

Significant gaps in the literature also exist around the connection between subminimum wages paid to disabled workers and poverty among disabled adults. If one of the stated goals of VR programs is to provide workers with disabilities the opportunity for better economic outcomes, how have the interventions provided by VR achieved these aims? It is that question that forms the basis for this research project.

History of Vocational Rehabilitation

The history of vocational rehabilitation dates back as early as 1917, and its evolution can be seen through legislative and policy changes over the years. Some of the pivotal changes that will be highlighted in this section are the Soldier's Rehabilitation Act, the 1935 Social Security Act, the 1973 Rehabilitation Act, deinstitutionalization from facilities, the passage of the Americans with Disabilities Act of 1990, and the 1999 Supreme Court ruling on *Olmstead v. LC*.

Origins. The earliest roots of vocational rehabilitation (VR) come from the Smith-Hughes Act of 1917, which provided federal funding for agricultural programs in schools. The Soldier's Rehabilitation Act of 1918 introduced the concept of providing work supports for wounded and disabled veterans returning from World War I (Kundu & Schiro-Geist, 2007). Veterans were trained in programs that matched their current abilities. For example, a soldier who had lost a leg fighting in France would be retrained as a draftsman when he returned home. This program was widely successful and was held in high public opinion. Because of the popularity of this program, it was expanded in 1920 to include non-veterans. Aid remained limited to those with the specific disabilities outlined in the law. People with epilepsy and

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developmental disabilities, for example, were not eligible for assistance through VR (Braddock & Parish, 2001). They relied on charity from churches or family, or were put into state-supported institutions. VR funding was increased, and it was made into a permanent program as part of a provision of the 1935 Social Security Act. In Minnesota, the St. Paul Goodwill Industries employed 100 persons, “too handicapped for WPA employment, but who want to keep off the relief rolls” (Goodwill, 1938). During WWII, many jobs were left unfilled by those fighting in the war. The Rehab Act of 1943 allowed individuals with mental illness and “mental retardation” (language used at the time) to obtain VR services to allow them to join the workforce and 1954 amendments expanded funding for these programs (SSA bulletin, 1954).

VR was again expanded in 1973 under the Rehabilitation Act, specifically Section 504, which was civil rights legislation designed to protect individuals with disabilities from discrimination. The Rehabilitation Act went beyond providing legal protection, and made specific reference to providing direct services to aid persons with disabilities obtain employment (Rothstein, 2014). Civil rights protections for individuals with disabilities expanded in 1990 with the passage of the Americans with Disabilities Act. VR in its current form is regulated by both Section 504 and the ADA; both of which assume that people of all ability-levels are employable and provide protections accordingly. While VR has evolved significantly over the years, the model remains inadequate for providing the level of services needed for disabled job-seekers (Certo, Luecking, Murphy, Brown, Courey & Belanger, 2008; MacInnes, Tinson, Gaffney, Horgan & Baumberg, 2014).

Deinstitutionalization. The concept that people with disabilities should be free to direct their own care and to lead independent lives in the community began to take root in the 1960s in Minnesota (Cooper, 2011). This mirrored a growing national awareness of the abuses taking

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place in institutionalized settings. This trend continued into the 1980s, as seen by the migration of people with disabilities out of the Faribault State School and Hospital and other regional hospitals. Since 1978, Minnesota has gone from having 11 large state mental hospitals to just one (Leys, 2015). The literature shows countless examples of state “schools” not providing or being funded for any education for their residents. The state schools for those with disabilities consisted of overcrowded, squalid living conditions, where individuals were warehoused and not expected or allowed to lead independent lives, let alone have jobs in the community (Leys, 2015).

The change was slow, despite a growing disability advocacy movement and public outcries for better living conditions for individuals with disabilities. This appears to have been largely due to funding, but there also remained traces of the sentiment from previous decades that there was reason to fear those who were different and lock them away for the so called public good. A 1977 report for the MN Governor’s Planning Council on Developmental Disabilities spoke of the heartbreak that parents of children with disabilities faced, “These people had heard too long the old familiar answers: ‘Your child is defective, put him away and forget him’” (Cobb, 1977, p. 3). This notion was echoed in a 1945 radio show that aired in Minnesota, wherein a medical expert told the radio host the best thing parents could do for their disabled children would be to send them to a state institution because “they like to be with those who are like them” (Byers, 1945). Thankfully, this type of othering began to wane and an increased interest began in supporting individuals with disabilities to lead full lives in the community. This did not come about by chance, but rather by the focused effort of grassroots organizations like The Arc.

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Following deinstitutionalization, VR and supported employment were of critical importance in helping people with disabilities begin to integrate into communities. Programs to assist people with disabilities find and maintain employment saw a resurgence in the mid-1980s, with much of the literature discussing the “brand-new” concept of supported employment in Minnesota, suggesting a long lapse in programming since its inception in the 1930s (“It’s Working”, MN Supported Employment Project files, 1988).

Americans with Disabilities Act. The Americans with Disabilities Act (ADA) was passed by congress in 1990 with the intent to break down barriers to employment for people with disabilities. Despite this, adults with intellectual and developmental disabilities remain one of the most underemployed segments of the population (Siperstein et al., 2013; Erickson et al., 2016). People with disabilities want meaningful work and to earn a living wage, yet many barriers exist to this dream.

Olmstead Ruling. In 1999, the U.S. Supreme Court made an historic ruling in the case *Olmstead v. L.C.* With this case, unnecessary institutionalization of people with disabilities was seen as discrimination and in violation of the ADA. It also ruled that individuals have a right to receive benefits in the “most integrated setting appropriate to their needs,” and that failure to find community-based placements for qualifying people with disabilities is illegal discrimination (*Olmstead v. LC*, 527 US 581 - Supreme Court 1999). The *Olmstead* case involved two women with mental disabilities who were forced to reside in state-run segregated institutions even though their treatment providers agreed that they could be appropriately treated in the community (*Olmstead v. LC*, 527 US 581 - Supreme Court 1999). These women sought to live and receive treatment in an integrated community-based setting and argued that their confinement violated Title II of the Americans with Disabilities Act. The Supreme Court ruled

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in their favor, and in subsequent years has mandated that states act to provide services and housing to people with disabilities in the least restrictive setting possible. This provided the basis for the Olmstead Act in Minnesota, which began implementation in 2015, and is being phased into action currently.

What this means for people with disabilities who want to work and to earn a living wage in Minnesota is complex. Vocational rehabilitation services are mandated to work with anyone who wants the assistance in finding and maintaining employment, but the services remain underfunded and understaffed (Kolodner, 2016). This may be one factor in accounting for why VR services have not met their intended purpose: to help adults with disabilities find and maintain employment.

Types of VR Supports

According to the Minnesota State Council on Disability, people with disabilities represent approximately 20% of Minnesota's population (MSCOD, 2016). Accurate data on the number within this population that have intellectual and/or developmental disabilities (ID/DD) is not currently available. However, according to the Minnesota Department of Human Services, Day Treatment & Habilitation (DT&H) services are available in 81 Minnesota counties and serve more than 12,000 people (DHS, 2016). DT&H centers are licensed supports to help adults develop and maintain life skills, participate in community life, and engage in proactive and satisfying activities. Eligibility requirements include being 18 or over, diagnosed with developmental disabilities, and going through a screening process for a disability waiver (DHS, 2016).

In the United States in 2013, 33.9% of people with disabilities ages 18-64 living in the community were employed. The employment percentage was much higher for people without

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disabilities at 74.2% (Stoddard, 2014). According to Cooper (2011), integrated non-facility based employment of individuals with intellectual disabilities comprises only 14.1 percent of working age adults. Certainly, some facility based employment services, such as day training, are needed to help those in our community who want to work but need some additional supports. Given the low employment rate of adults with IDD in integrated settings, there is likely a gap between the goal of VR services and the reality of job placement for this population.

Work through day treatment is typically divided into two types: “in-house” which is often piece-rate work within the day treatment center itself performed with other employees with disabilities, and “contract work” consisting of paid work for a company that contracts with the day treatment center. These contracts can be “mixed”, meaning that work is done side by side with other employees who may or may not have a disability. The research shows that adults with disabilities are usually better served in supported employment settings with people who do not have disabilities, yet most adults with severe disabilities who regularly attend day activities outside their residences continue to participate in congregate, or “in-house” day treatment settings (Parsons & Rollyson, 2004).

Impacts of Advocacy

As with any other social change, the assumption that adults with disabilities can and should be allowed full inclusion into their communities (including the right to work) did not happen all at once. The first glimmer of a national grassroots advocacy organization for disability rights, currently called The Arc, began in the 1950s. The first assembly consisted primarily of a group of parents of disabled children who wanted the best for their children. The organization has since expanded to serve disabled children and adults alike, in the form of public

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policy advocacy, trainings, job searches and resources for friends, family and employers (History of the Arc, 2015).

The Arc is one of the largest organizations serving adults with intellectual and developmental disabilities, and continues to work toward more access and inclusion for people with disabilities. Unfortunately, the voices of disabled adults and their preferences are still too often overlooked, and their voices remain largely absent from public discourse on policy issues that affect them directly. Advocacy groups such as The Arc are working to change this under-representation.

Employment First

Employment First is an employment model that has been gaining in popularity in recent years and has extensive support through the literature (Niemiec, Lavin & Owens, 2009; APSE, 2010; Spreat & Conroy, 2015; Thibedeau-Boyd & Davis, 2016). Employment First has at its core a philosophy that employment should be the first and preferred outcome for the disability support service system. It is centered on the belief that all citizens, including individuals with significant disabilities, are capable of full participation in integrated employment and community life.

Employment First is also a movement that has grown over the last decade and includes such changes for individuals with disabilities as the formation of a special sub-cabinet agency within the United States Department of Labor: The Office of Disability Employment Policy, which was formed in 2001 with a goal of advancing public policies that remove barriers to employment for individuals with disabilities (Association for People Supporting Employment First, 2010; US Department of Labor, 2016). Employment First initiatives have led to greater emphasis on integrated work as a goal of VR, as opposed to sheltered work environments which

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employ disabled workers in segregated workshops. These changes toward more inclusion for disabled workers come directly from the changes in legislation following the Olmstead case of 1999.

Summary and Applied Research Purpose

Based on the history of VR, and the volume of research already done related to achieving employment outcomes for adults with IDD, it became apparent that rather than collecting new data, what was most needed was an analysis of research that has already been conducted. Therefore, the applied purpose for this research project was to evaluate the extent to which VR services improve economic outcomes for adults with IDD using existing research.

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Research Lenses

No research study (including systematic review) is without bias. The importance of acknowledging researcher bias is critical in any research study. While objectivity is a noble goal, it would be naïve to assume that the lenses each researcher uses to view the world have no impact on his or her findings. Helene Deutsch (1944) noted this when she said, “After all, the ultimate goal of all research is not objectivity, but truth” (p.4). In the pursuit of truth, some objectivity may be lost. Therefore, in the interest of truth, I will discuss the biases that I bring to this research project by articulating three types of lenses: theoretical, professional and personal.

Theoretical Lenses

The concepts that best describe my approach to this research topic are ecological systems theory, critical theory and human capital theory. Ecological systems theory was developed by Urie Bronfenbrenner (1986) and looks at an individual within context. The framework laid out by this theory suggests that a person will respond and behave differently in various environments due to the systems at play. Influences of system range across five levels of external systems which all influence each other. These levels range from the most intimate (micro systems) to the largest influences of society and culture (macro systems). This view is relevant to the current research in that individuals with disabilities have a range of barriers to overcome, from within their immediate microsystems up through the larger social and cultural systems. Looking at individuals who participate in vocational rehabilitation programs within this broader lens may be beneficial in understanding both how they can more successfully navigate existing system, as well as potentially providing the perspective with which to challenge existing structures that do not benefit clients in the way that they were designed to.

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Critical theory seeks not to explain or understand society and its norms, but rather to challenge and change those social norms. Critical theory provides a framework for constructively critiquing systems with the aim of creating a better system. Its roots trace back to the economic theories of Karl Marx and his theory of exploitation of some at the expense of others (Horkheimer, 1982). In the case of vocational rehabilitation, there are many aspects of programming that could benefit from a healthy critique. This lens is essential in looking honestly at the pitfalls of service delivery systems to ensure that they are fulfilling their intended purposes to help the marginalized and vulnerable populations they have been designed to serve.

Finally, human capital theory is the concept that workers in a society offer their talents and productivity to an economic workforce. The theory, put forth by Gary Becker and Jacob Mincer, suggests that certain advantages and disadvantages exist to viewing the labor market in this way (Becker, 1994). One advantage is seeing training programs, such as vocational rehabilitation, as an aspect of investing in human capital. One disadvantage is the presumption that workers who are paid less must have less skill to offer. As seen with the sub-minimum wages often paid to workers with IDD, this concept can take itself to the extreme in the labor market.

Professional Lenses

The professional experience that I bring to bear on this research comes from my work as a county financial worker, working primarily in the aging and disability services division. Part of my responsibility was to determine whether individuals were able to receive county assistance for benefits such as housing, personal care needs, and food. These determinations were made based on several variables, especially income. In my work, I came across hundreds of disabled clients who were working full time jobs, yet making sometimes less than \$40 per paystub (over

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the course of two weeks). It seemed unethical that an employee could work full time and not earn benefits or even minimum wage. This was my first glimpse into the economic challenges that workers with disabilities face, as well as the enormity of the struggles that programs such as vocational rehabilitation have in providing services that offer dignity and equality to the clients they serve.

My professional lens as a social worker leads me to challenge systems that are unjust. The widespread exclusion of people with disabilities from living-wage jobs is unacceptable. Programs designed to reduce this marginalization, though necessary, can do more to create economic opportunities.

Personal Lenses

My personal experience having a sister with a disability and seeing the challenges that she faced have deeply shaped my worldview. My bias is that we do not do enough as a society to ensure that individuals who are differently-abled have the means to live as independently as possible. Discrimination and low-wage jobs are realities that disabled workers too often face. My experience with my sister showed me she had abilities that were not always apparent at first glance, but for those willing to invest the time, she showed a wealth of gifts and talents. I heard her speak about how she had something to contribute as well and watched helplessly as she expressed her sadness and frustration at being overlooked for jobs for which she was fully capable. While VR services were designed to help with such issues, I observed that the VR services she obtained were unable to assist her in achieving her goals of meaningful work that paid a living wage. This observation formed the basis for my interest in this research topic. Learning that this was not an isolated incident, rather that low-wages and poverty affect individuals with disabilities at much higher rates than their non-disabled counterparts, compelled

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me to investigate the issue further and to look more closely at how VR services could be improved.

My experience personally and professionally compelled me to seek out data on things that I intuitively believed to be obvious and to learn if there was evidence to support my assumptions. My theoretical lenses influenced the types of interventions that I assumed would be more beneficial than others. One difficulty that I experienced by choosing a research topic so near to me is that I struggled to maintain investigator responsiveness and neutrality. As a result, taking an analytical stance was necessary to seek out alternative explanations for the findings and stay attuned to the data. My reflexivity as a researcher has been most apparent in the synthesis of the findings for this systematic review. I have learned through the process of synthesizing discouraging findings more about my bias toward advocating for human rights and social justice rather than upholding systems that no longer function as intended. Through continued reflection of the self as an instrument in research, my bias toward dismantling unjust systems became more evident. As a researcher, the goal was always to stay keenly aware of these biases, while remaining sensitive to the integrity of the data and what it had to say.

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Method

Research Purpose

The purpose of this research project was to evaluate the extent to which Vocational Rehabilitation (VR) services improve economic outcomes for adults with intellectual and developmental disabilities. Due to both the volume of existing literature on vocational rehabilitation and the lack of consistency in defining economic outcomes, a systematic review was selected as the research method for this project. This method was also chosen because “a systematic review aims to comprehensively locate and synthesize research that bears on a particular question, using organized, transparent, and replicable procedures at each step in the process” (Littell, Corcoran & Pillai, 2008, p.1).

The aim of this systematic literature review was to highlight the findings of previous studies and to synthesize the findings related to the effectiveness of VR services in helping adults with disabilities find and maintain employment. Furthermore, this review also examined which types of VR services actually helped adults with IDD achieve better economic outcomes through their participation in these programs.

Sampling Procedures

In order to answer the research question, only empirically-based quantitative studies were considered. Qualitative studies, which examine aspects such as quality of life and employee satisfaction are also important, but do not capture the concrete data related to economic outcomes this study aims to explore. The studies that were included for this systematic review were those that measured outcomes of participation in Vocational Rehabilitation in more concrete terms, specifically wages and economic outcomes. Date ranges were set for this search

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to include only those articles published after the ruling on the landmark *Olmstead v. L.C.* court case in 1999.

Search strategy. Systematic review as a research method requires specification of search strategies, including search terms used, as well as explicit reporting of the inclusion and exclusion criteria used by the researcher (Littell et al., 2008). A search of academic journals including Academic Search Premier, SocINDEX, and PsychInfo databases were used in the preliminary steps of this systematic review. These early searches were conducted to determine the type and volume of research currently available on the topic of VR effectiveness and outcomes. In order to understand the scope of available literature around the research question, a search using broad keywords was used for the initial search. The search terms used were: “vocational rehabilitation” and “disability.” This yielded 3,739 results in PsychInfo alone, for a total of 7,867 results across the three databases identified above. Due to the large number of results, additional keywords were added for specificity, as well as to target the question of economic outcomes more accurately. The exact terms used for the second search were: vocational rehabilitation, developmental and intellectual disabilities, and wages. This yielded 204 results across the three databases. Abstracts of the 204 returned results from this search were read to determine their inclusion into the final review. Rationales for inclusion and exclusion based on readings of these abstracts are outlined below.

In the Academic Search Premier, PsychInfo and SocINDEX databases, searches were carried out using the same search terms. The search terms used were: “vocational” AND “rehabilitation” AND “intellectual disabilities” OR “developmental disabilities.” Key index terms were then added to this search. These index terms were “wages” or “employment outcomes.”

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Upon review of the remaining 204 articles, 132 met criteria for additional screening once qualitative measures or outcomes, such as quality of life or employee satisfaction, were discarded from this review. From the pool of 132 articles, abstracts were reviewed to determine if further exclusion criteria could be applied. For the purposes of this review, articles which focused on physical disabilities, mental illness, employment outcomes for young adults, and programs that focused on post-secondary education rather than employment were discarded.

For clarity, Figure 1 contains a flowchart of the steps involved in the data retrieval process. The review protocol outlines how these 132 articles were narrowed to the 14 articles included for final review.

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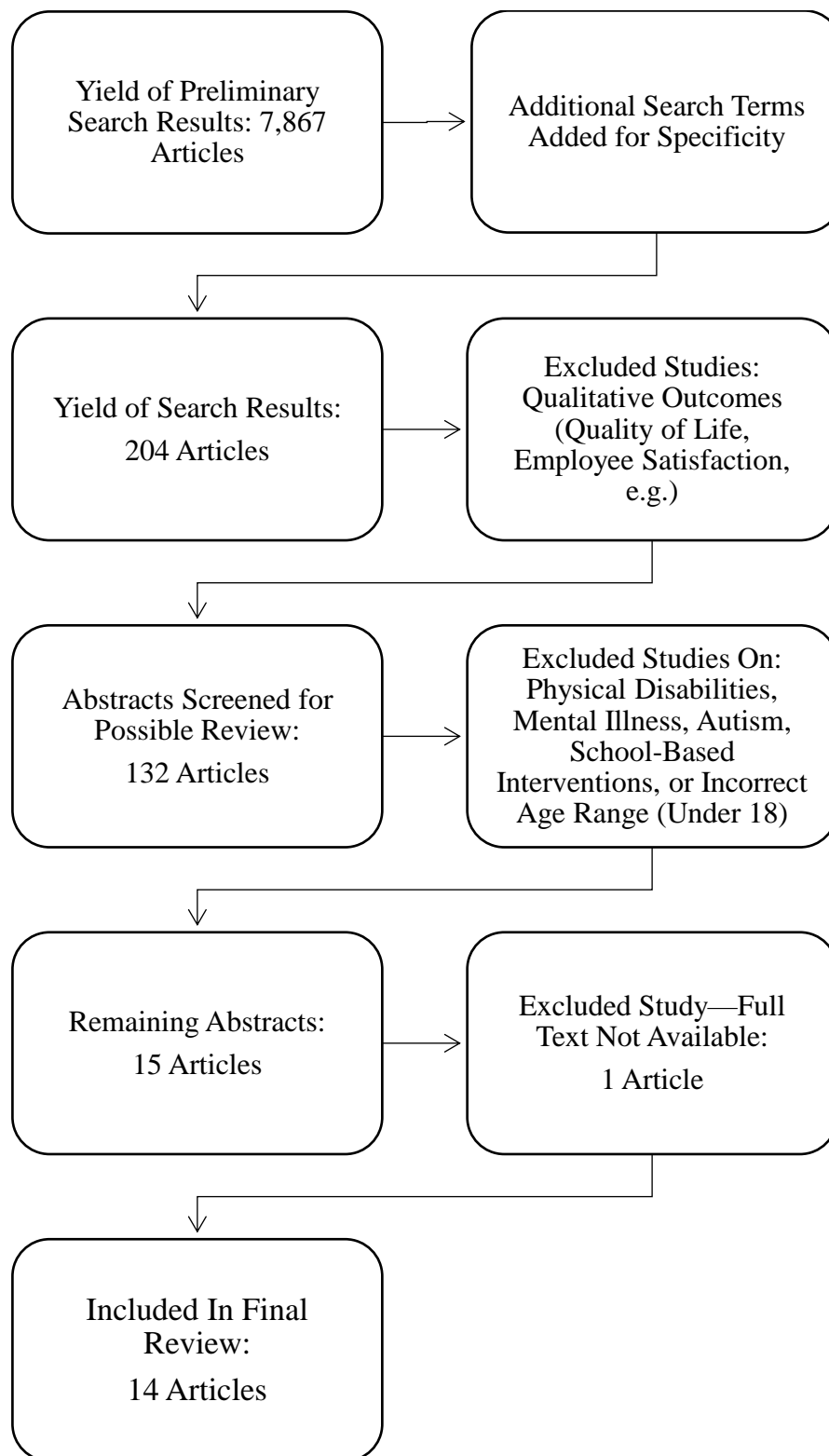


Figure 1. Flowchart of Data Retrieval Process

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Review Protocol

Only peer-reviewed, full-text articles were used for this review from the aforementioned databases using a date range of 1999 to present. These articles were identified and reviewed during the month of January 2017.

Inclusion criteria. Focus for this review was on studies that were specific to adults with intellectual and developmental disabilities (IDD) who were also receiving VR services. To be included in this systematic review, articles also needed to focus on this population. Articles selected for inclusion also needed to have a quantitative design, with measurable economic outcomes.

Exclusion criteria. Articles were excluded from this study due to incorrect sample populations studied, qualitative design, and focus on educational interventions. Much of the information found during initial scoping revealed that outcomes have been considered for adults with physical disabilities. To narrow the focus of this research to the target population (adults with intellectual and developmental disabilities participating in VR), studies of adults with physical disabilities were excluded from consideration. Because the scope of this study is to look more narrowly at the population of adults with IDD, studies on Traumatic Brain Injury, Autism Spectrum disorder and a variety of other mental illness diagnoses were also excluded. Qualitative research design was another excluding factor, due to the emphasis on quantitative outcomes for this study. Further, studies that focused on disabled young adults (under age 18) and those that examined post-secondary education as an intervention were also excluded. The 14 studies that met criteria for review once inclusion and exclusion protocols were completed are listed in Table 1 below.

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Table 1. Included Articles

Author(s)	Title	Database
Austin, B. S., & Lee, C.L. (2014)	A Structural Equation Model of Vocational Rehabilitation Services: Predictors of Employment Outcomes for Clients with Intellectual and Co-Occurring Psychiatric Disabilities.	Academic Search Premier
Brown, L., Kessler, K., & Toson, A. (2016)	An Integrated Work Skill Analysis Strategy for Workers with Significant Intellectual Disabilities.	Academic Search Premier
Butterworth, J., Hiersteiner, D., Engler, J., Bershadsky, J., & Bradley, V. (2015)	National Core Indicators©: Data on the Current State of Employment of Adults with IDD and Suggestions for Policy Development.	PsychInfo
Cimera, R. E. (2011)	Does Being in Sheltered Workshops Improve the Employment Outcomes of Supported Employees with Intellectual Disabilities?	Academic Search Premier
Cimera, R. E. (2012)	The Outcomes Achieved by Previously Placed Supported Employees with Intellectual Disabilities: Second Verse Same as the First?	Academic Search Premier
Daniels, T. M., & Mickel, E. (2002)	Predicting Weekly Earning for Consumers with Severe Disabilities: Implications for Welfare Reform and Vocational Rehabilitation.	SocINDEX
Heyman, M., Stokes, J. E., & Siperstein, G. N. (2016)	Not All Jobs Are the Same: Predictors of Job Quality for Adults with Intellectual Disabilities.	Academic Search Premier
Mank, D., Cioffi, A., & Yovanoff, P. (1999)	Impact of Coworker Involvement with Supported Employees on Wage and Integration Outcomes.	PsychInfo
McDaniels, B. (2016)	Disproportionate Opportunities: Fostering Vocational Choice for Individuals with Intellectual Disabilities.	Academic Search Premier
Migliore, A., & Butterworth, J. (2008)	Trends in Outcomes of the Vocational Rehabilitation Program for Adults with Developmental Disabilities: 1995-2005.	Academic Search Premier

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Moore, C. L., Harley, D. A., & Gamble D. (2004)	Ex-Post-Facto Analysis of Competitive Employment Outcomes for Individuals with Mental Retardation: National Perspective.	Academic Search Premier
Nord, D. & Hepperlen, R. (2016)	More Job Services--Better Employment Outcomes: Increasing Job Attainment for People With IDD.	Academic Search Premier
Spreat, S. & Conroy, J.W. (2015)	Longitudinal Investigation of Vocational Engagement.	PsychInfo
Stephens, D., Collins, M., & Dodder, R. (2005)	A Longitudinal Study of Employment and Skill Acquisition Among Individuals with Developmental Disabilities.	SocINDEX

Quality Assessment of Articles Reviewed

A critical appraisal was performed on each of the 14 studies that were included in this review. This was done to evaluate the quality of the research and to determine how well each of the studies that met inclusion criteria addressed the research question: does participation in Vocational Rehabilitation (VR) services improve economic outcomes for adults with intellectual and developmental disabilities?

This researcher developed the following quality assessment tool and used it to assess the quality of each of the articles included in this systematic review, assigning a score to each. Jadad et al. (1996) designed a five-point quality scale, on which this quality assessment tool is loosely based. For each of the criteria listed below, the article was rated as: 4—item addressed thoroughly; 3—item addressed to a moderate degree; 2—item partially addressed; or 1—item not addressed. The following is the list of the quality criteria for both qualitative and quantitative studies:

- Was the purpose of the study discussed?
- Were the population numbers clearly stated?

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- Were the methods of data collection clearly stated?
- Can the results be generalized?
- Were the economic outcomes clearly stated?

Generalizability of the research results was determined by factors including sample size and location of study. For example, a small study conducted in one regional area would receive a lower score than that of a large study that included national data. The 14 articles identified for this systematic review were all of moderate to high quality as determined by this quality assessment. Table 2 illustrates the quality assessment checklist for the 14 articles chosen for inclusion in this study.

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Table 2. Quality Assessment Checklist.

Author	Purpose Clarity	Population numbers	Methods of data collection	Generalizable Results	Economic Outcomes
Austin, B. S., & Lee, C. L. (2014)	3	4	4	4	2
Brown, L., Kessler, K., & Toson, A. (2016)	3	1	1	1	1
Butterworth, J., Hiersteiner, D., Engler, J., Bershady, J., & Bradley, V. (2015)	3	4	3	3	3
Cimera, R. E. (2011)	4	4	4	4	4
Cimera, R. E. (2012)	4	4	4	4	4
Daniels, T. M., & Mickel, E. (2002)	3	3	2	1	1
Heyman, M., Stokes, J. E., & Siperstein, G. N. (2016)	4	4	4	4	4
Mank, D., Cioffi, A., & Yovanoff, P. (1999)	4	4	3	1	3
McDaniels, B. (2016)	4	1	4	1	3
Migliore, A., & Butterworth, J. (2008)	3	4	4	4	3
Moore, C. L., Harley, D. A., & Gamble D. (2004)	4	4	4	4	4
Nord, D. & Hepperlen, R. (2016)	4	4	4	4	3
Spreat, S. & Conroy, J.W. (2015)	4	4	3	1	3
Stephens, D., Collins, M., & Dodder, R. (2005)	4	4	4	4	2

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As indicated, 14 articles met inclusion criteria for this systematic literature review. Once the 14 articles were identified for inclusion into this review, the quality of each study was analyzed using the following criteria: clarity of study purpose, sample size, data collection methods, generalizability, and whether economic outcomes were clearly stated. All studies used for this research were peer-reviewed, the quality assessment tool listed above was used to further assess the identified studies for content and quality. Once the articles had been assessed for quality based on the criteria outlined in Table 2, another in-depth review of each article was conducted to discern themes present in the research.

Strengths and Limitations

One of the strengths of a systematic review is that it provides an overview of numerous existing studies and synthesizes findings in one place. Conducting a systematic literature review allowed this researcher to distill a great deal of information from previous research down to the existing data set. Strict protocols and disciplined focus are required for data collection in a systematic review, with the aim of reducing bias. The nature of data collection also provides replicability, as any researcher should be able to re-create the results of this study by following the design outlined in the method. The broad nature of the data collected for a systematic review makes this design more reliable than individual studies. Finally, it is less costly to review existing studies than it would be to design a new study.

What the design of a systematic literature review offers in breadth, it unfortunately lacks in depth. One of the limitations of this type of research is that it, by design, cannot look as deeply into issues as other methods (such as case studies or qualitative interviews) might allow. Another limitation specific to this study is the imprecise measurement of economic outcomes by

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VR programs. This combined with a lack of universal concrete terms within VR systems makes measurement of “success” of VR interventions on economic outcomes extremely difficult.

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Findings

Once identified articles had been reviewed for quality, each study was read in its entirety again to detect themes in the data. This was an iterative process with the aim of synthesis of the primary findings from the systematic review of 14 research studies, specifically those findings related to economic outcomes for adults with intellectual and developmental disabilities. In depth analysis of the criteria used for these findings can be found in Appendix A.

Five themes emerged from the analysis of the selected articles, including: 1) barriers to inclusion, 2) the prevalence of poverty, 3) emphasis on person centered interventions, 4) barriers to obtaining employment and 5) the lack of first-hand data from the recipients of VR services. These themes will be discussed in greater detail below, but first an overview of observational data and a summary of economic outcome measures will be presented.

Observational Data

Of the 14 articles reviewed, eight (57%) used secondary data analysis of the Rehabilitation Services Administration (RSA) Case Service Report, also known as the RSA-911 dataset. This information is collected and reported in a federally-mandated format by state vocational rehabilitation employees. The RSA-911 has vast amounts of data on VR participants and the reasons for case closure, including Status 26 or successful closure due to “rehabilitation.” An individual's VR case is closed as successfully rehabilitated when he or she has achieved employment (of any type) and maintained the employment for a period of longer than 90 days.

The remaining six studies (43%) used survey data for their research methods, either through face to face interviews or questionnaires with individuals with disabilities themselves, their care providers, or with their VR services workers.

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Measures of Economic Outcome

As expected, measures of economic outcomes varied across the studies reviewed.

Broadly, the indicators related to economic outcomes used by each of the studies fell into one or more of the following categories: competitive employment, hours worked, and earnings.

Competitive employment. Studies report that VR is helping more people with IDD obtain competitive employment than those who do not receive any VR services. Competitive employment has been defined as employment in an integrated setting, in which individuals with IDD earn at least minimum wage and work with employees who do not have a disability (Heyman et al., 2016). The odds of an individual with intellectual disabilities obtaining a job in the community was almost two times higher if they received VR services (such as job training and placement services) than those who had not received any supported employment assistance (Moore et al., 2004). Similarly, Nord and Hepperlen (2016) found that those receiving at least three types of VR job supports were 16 times more likely to obtain employment than those without any job-related supports. Specific job-related supports such as on-the-job assistance, training, placement services, and job readiness training were significant predictors of employment outcomes (Austin & Lee, 2014). Adults who previously had supported employment services were more likely to be competitively placed than those who were seeking their first community job placement, suggesting that VR provides job skills and training that benefit those who receive these services (Cimera, 2012).

That said, just 18% of adults with intellectual disabilities are working competitively (Siperstein et al., 2013). Moreover, “competitive” may be a bit of a misnomer, since minimum wage is not typically thought of as a competitive living-wage salary. Findings around low wage jobs and part-time work with few or no benefits were common among the research.

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Hours worked. Perhaps unsurprisingly, the number of hours worked was also a factor in how well employees fared in terms of economic outcomes. Four studies (29%) reported findings on the number of hours worked per week. Of these, average hours worked were less than half-time in all instances (Migliore & Butterworth, 2008; Cimera, 2011; Cimera, 2012; Butterworth et al., 2015). On average, the number of hours worked weekly ranged from 26.5 hours to 28.5 hours (Migliore & Butterworth, 2008) while Cimera (2011) found an average of 22.44 to 24.78 hours worked weekly, with employees faring better at supported worksites than those in segregated settings. Similar research conducted a year later, using cohort groups containing 12,767 participants each yielded comparable data; those working in sheltered workshops worked an average of 21.75 hours weekly versus a cohort of employees who received supported employment services who worked 22.30 hours weekly on average (Cimera, 2012). Butterworth et al. (2015) found employees worked even less at an average 25.5 hours biweekly, rather than weekly. Heyman et al. (2016) found that high job stability was correlated to the most hours worked. In other words, those who had been in a job for longer than three years were found to earn significantly more than those who had worked less. Spreat and Conroy (2015) looked at annual hours worked over a 15-year period and found the disturbing result that not only did none of the hours exceed half time, employment overall for adults with IDD is on a downward trend.

Wages. According to the data, disabled workers earn far less on average than those without disabilities. Further, the range of employment options and wages earned are even more limited for individuals with IDD than those with other disabilities (McDaniels, 2016). Eight (57%) of the 14 studies reviewed discussed earnings directly, two (14%) addressed wages indirectly, and four (29%) addressed outcomes other than wages. Of the studies that address wages directly, average earnings for those hired with intellectual and developmental disabilities

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ranged from \$137.20 weekly to \$322.49 weekly (Daniels & Mickel, 2002; Migliore & Butterworth 2008; Cimera, 2011; Cimera 2012). One study looked separately at data for paid community jobs with supported employment services and *competitive* community employment and found wages to average \$7.77 per hour and \$8.27 per hour, respectively (Butterworth et al., 2015). McDaniels (2016) found that people with IDD fare no better on employment rates, range of possible vocational placements, or wages earned than they did nearly two decades ago. Co-worker involvement and training on the types of accommodations that may be needed for their disabled co-workers was found to be linked to significantly higher wages (Mank et al., 1999).

Barriers to Inclusion

Data found in this study suggests that VR service goals are beginning to move away from placing workers in sheltered workshops and toward placement into more inclusive settings. However, of the 14 articles reviewed, only five (36%) studies considered supported employment, while seven (50%) considered both supported and sheltered (segregated) employment. Two (14%) did not address either type of VR service intervention. Notably, none of the findings of any of the 14 studies supported segregated employment as a means to improve economic outcomes. One study found segregated worksites to be a “negative value added” intervention because they cost more and were less effective in placing individuals in jobs than supported employment (Cimera, 2012). This study went on to cite the cost-effectiveness and economic outcome benefits of supported employment as rationale for moving funding away from sheltered employment toward programs that provide workers with IDD more inclusion into competitive employment (Cimera, 2012).

Adults with disabilities continue to face barriers to inclusion, both in integrated work settings as well as in the competitive job market (Butterworth et al., 2015). Some of those

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barriers appear to be coming from the VR supports themselves; the data suggest that only 30% of adults with IDD who stated that they want a job have this as a goal on their VR service plan (Butterworth et al., 2015). McDaniels (2016) also noted low expectations of employment professionals as a reason for restricted employment; this study went on to highlight the role of VR in changing employment outcomes by changing expectations of staff. Migliore and Butterworth (2008) suggest improving VR leadership and values as means for improving economic outcomes.

Inclusion into “typical” work environments was found to be an important factor not only in long-term job success, but also in higher wages (Mank et al., 1999). Earnings in integrated settings far outpaced those in sheltered or segregated settings (Migliore & Butterworth, 2008; Cimera, 2011). Despite trends in VR services to move away from placing people with IDD in segregated settings, Spreat and Conroy (2015) found no growth in integrated forms of employment for this population. They attribute the decline in segregated employment to be due to an increasing number of individuals with IDD dropping out of the workforce altogether (Spreat & Conroy, 2015).

Prevalence of Poverty

As the findings on wages, hours worked, and competitive job placements outlined above suggest, poverty remains prevalent among adults with intellectual and developmental disabilities despite the interventions of vocational rehabilitation. In fact, McDaniels (2016) found that earnings were lower for those with IDD than for those with other disabilities. This same study reported that people with intellectual disabilities were more likely to be placed in food preparation and cleaning/maintenance positions, and earning up to 39% less than other VR occupational placements (McDaniels, 2016). Even in studies that found instances of persons with

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IDD in community-based employment, 60% earned minimum wage or less, and those who earned more were not offered full-time employment (Heyman, Stokes & Siperstein, 2016).

Heyman et al. (2016) also noted that 61% of the employees they surveyed did not have health insurance offered by their employers, highlighting the gaps between what is considered

“competitive” employment in principle and practice. Migliore and Butterworth (2008) reported that VR participants’ earnings at time of case closure were close to the poverty threshold.

Perhaps more alarming was their finding that the gap between earnings of the general population and the population of adults with IDD were not only large, but were found to be widening over time (Migliore & Butterworth, 2008).

Person-Centered Interventions

Employment First and other person-centered interventions were common recommendations based on the research reviewed for this study, not only due to the correlation with competitive job placements, but also due to the better economic outcomes associated (Spreat & Conroy, 2015; Butterworth et al., 2015; McDaniels, 2016; and Nord & Hepperlen, 2016). Four of the articles (29%) discussed Employment First directly as a model for VR intervention, while four more (29%) suggested person-centered approaches to employment that were similar to the philosophy of the Employment First model. As discussed earlier, Employment First initiatives value employment as self-sufficiency for disabled workers (APSE, 2010). It is a movement toward integration and advocates for tailoring VR services to best meet the needs of each individual employee. Butterworth et al. (2015) noted the disconnect between Employment First policy and low integrated employment outcomes for adults with IDD and made recommendations for more alignment of policy and practice, including improving the

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quality of employment outcomes, increasing expectations of VR support staff and increasing client choice and self-sufficiency.

Vocational choice was emphasized as key to ensuring that adults with IDD are provided information on the range of employment opportunities available to them (McDaniels, 2016). Heyman et al. (2016) concluded based on their findings that competitive employment alone should not be the goal and focus of VR interventions, but rather *quality* competitive employment with access to higher wages and better job stability.

Barriers to Obtaining Employment

A common theme among the articles was the significant number of barriers that continue to prevent workers or would-be workers with disabilities from accessing and maintaining long-term high-wage employment. The type and amount of VR services provided were identified as one barrier to employment and positive economic outcomes for adults with IDD (Nord & Hepperlen, 2016). Additionally, complex economic, social, and personal factors all contribute to economic outcomes. Some of the factors that came up frequently in the research were: the barrier of public assistance, low expectations, negative employer attitudes, and the adaptive skills of job-seekers with IDD (Stephens et al., 2005; Austin & Lee, 2014; Butterworth et al., 2015; Heyman et al., 2016; McDaniels, 2016).

Welfare system as a barrier. Many adults with intellectual and developmental disabilities rely on state and federal funds to live, including Supplemental Security Income (SSI). In order to maintain eligibility for SSI in Minnesota for example, individuals must earn *less* than \$1,130 monthly. Additionally, any income earned is counted against the total SSI benefit. Similarly, other assistance programs such as subsidized housing, food support, and cash assistance reduce benefits based on income earned. This serves as a disincentive for working

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because taking a job may mean losing a more secure form of income and/or housing benefits (Heyman et al., 2016; Daniels & Mickel, 2002). Further, Miglore et al. (2008) reported that people with disabilities are discouraged from earning more by their supports, also for fear of losing disability benefits.

Low expectations. Parents, VR workers, and others involved in the lives of adults with IDD may have low expectations of what they are capable of. In at least one of the studies reviewed, VR staff did not demonstrate an emphasis on competitive employment (McDaniels, 2016). Butterworth et al. (2015) surveyed 12,720 adults with IDD and found that almost one-half (47%) of those who were not working at a paid job in the community wanted to be. Yet, less than 15% of those without a community job had it as service plan goal with their VR worker (Butterworth et al., 2015). The low expectations of employment professionals was suggested as a factor in providing fewer job supports (Moore et al., 2004). Consistent with these findings, those with significant disabilities were less likely to obtain employment, even with VR supports (Nord & Hepperlen, 2016). Improving expectations of employment specialists and ensuring they have experience working with adults with IDD was suggested as one way to overcome this barrier (McDaniels, 2016).

Adaptive skills. In addition to the other factors already outlined, six studies (43%) talked about the adaptive behaviors and skills of potential workers as a predictor and possible barrier to employment. Adaptive behavior is related to better job quality (Heyman et al., 2016). It may also be a factor in the quality and amount of VR services received (Moore et al., 2004). Austin and Lee (2014) suggest that more severe IDD may correlate to fewer VR supports, predicting negative outcomes as a result. Cimera (2011) found that individuals who participated in sheltered workshops were more costly to serve and may even learn behaviors that need to be

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unlearned to obtain competitive employment, making them less likely to obtain a job. He conducted similar research the following year and found that, in contrast with sheltered workshops, supported employment provided employees beneficial skills that made future employment more likely (Cimera, 2012). While looking at employment and adaptive behaviors, Stephens et al. (2005) found that adaptive behaviors increased as integrated competitive employment was obtained. The significance of this finding is that integrated employment itself may be key to increasing adaptive behavior.

Negative employer attitudes. VR workers can only do so much to place workers, however. Employers must also be willing to partner with them in hiring people with IDD (Brown et al., 2016). Increased focus on the needs of employers in “demand-side employment services” was suggested as an alternative to the more common VR practice of preparing adults with IDD with the skills needed for employment (McDaniels, 2016).

Missing Voices

Largely absent from the data were the perspectives and voices of the people with intellectual and developmental disabilities themselves. Only two (14%) of the studies used survey methods that addressed the individuals with IDD directly (Stephens et al., 2005; Butterworth et al., 2015). There were two additional studies that used the perspectives of parents, caregivers and job-coaches, but these cannot capture the direct experiences and wishes of the adults receiving VR services in their own words (Mank et al., 1999; Heyman et al., 2016). By design, the RSA-911 dataset does not incorporate the perspectives of people with IDD who participate in VR programs, but rather the impressions of VR staff who enter the data.

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Discussion

The purpose of this study was to review the existing literature to evaluate the extent to which vocational rehabilitation is effective in helping adults with intellectual and developmental disabilities improve their economic outcomes. Vocational rehabilitation programs across the country aim to provide services that aid people with disabilities find and maintain employment in the least restrictive setting possible. The findings of this study suggest that while vocational rehabilitation services are still very much needed supports, there may be better ways to support employees and job-seekers with intellectual and developmental disabilities.

A surprise finding was that employment overall is on a downward trend for adults with IDD (Spreat & Conroy, 2015). While segregated employment is on the decline, it appears that integrated competitive employment is not replacing it. Instead, more adults are simply dropping out of the workforce (Spreat & Conroy, 2015). With only 18% of adults with IDD working competitively, this downward trend is particularly disheartening (Siperstein et al., 2013).

Policy Implications

The findings of this study suggest that while VR interventions are better than no interventions in providing opportunities for adults with IDD, there is much to do to bridge the gap between policy and practice in implementing VR service. Cimera (2011) found that supported employment led to better adaptive skills and was an overall better value than sheltered workshops. Because sheltered workshops and supported employment services are often vying for the same federal tax dollars, these findings indicate that federal funds would be better spent on programs that help workers find competitive jobs in integrated settings. The results of this study also suggest that in order to move in the direction of the most integrated setting dictated by

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Olmstead v. LC, more funding is needed for supported employment services (Cimera, 2011; Spreat & Conroy, 2015).

If two types of programs are competing for the same funding streams and one not only has significantly better outcomes, but is less costly to operate, the policy decision should be clear. The wage gap is widening and workers with disabilities are getting left behind (Migliore & Butterworth, 2008). While most of the research reported that adults with IDD are paid at minimum wage or less, there were encouraging findings that co-worker training and involvement in community job placements led to not only significantly higher wages (\$639.61 per month vs. \$522.89), but also better social integration and inclusion (Mank et al., 1999). The lack of adequate funding for VR services may reflect a larger societal outlook that needs to change along with the changing VR programs.

Person-centered job supports. Employment First is an initiative that supports movement toward integration and advocates tailoring VR services to best meet the needs of each individual employee. This means that VR services need to focus on providing quality supports that are individualized to each job seeker. While policy has dictated that this is a priority, VR practice has not been able to live up to this goal in most instances. One suggestion to improve this in the future is for funding streams previously used for segregated worksites to be reallocated to supported employment services. In addition to this, data collected on the efficacy of these programs, such as the RSA-911, should be amended to include the first-hand perspectives of employees with IDD on their preferences and goals.

Overcoming Barriers

Low expectations from social workers, employers and family members may be one barrier to employment (McDaniels, 2016). With increased funding, VR could provide a better

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range of services (Cimera, 2011). In addition to funding, VR standards should be evaluated internally to determine if low expectations are a problem with placing adults with IDD in the most integrated settings (Spreat & Conroy, 2015). Changing VR counselor training and setting a higher expectation for successful closure of services is recommended (Migliore & Butterworth (2008, McDaniels, 2016).

Other barriers include discrimination, lack of resources, and lack of accessibility to existing resources. While these barriers cannot be addressed by policy changes alone, considerations for how these themes interact and negatively impact economic outcomes for adults with disabilities should be considered, particularly as they relate to the ability of VR programs to effectively deliver services.

Social Work Implications

Social workers have a responsibility as advocates to protect human rights and end oppression (NASW, 2008). As such, it is with a critical eye that one must view the role that social workers have played thus far in advocating for the well-being of clients with disabilities both on the micro and macro levels. There is much work to be done to actively solicit feedback from the clients that these programs are meant to serve and obtain first-hand accounts of what is working and what barriers remain. One obvious barrier to independence and self-support is the subminimum wage paid to workers with disabilities, which all but guarantees a lifetime of poverty. Social workers have a significant role in evaluating and dismantling unjust systems. We are called to act with and for marginalized and oppressed groups. This includes addressing stigma against inclusion of adults with disabilities in integrated work environments, as well as changing policies that inadvertently segregate and exploit adults with IDD. It is our

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responsibility to do more to ensure that the systems created to help people do so from a place of empowerment and respect for the human rights of all people.

Social Work Values

Values are not formed in a vacuum; the American value of productive work as the pinnacle of belonging in society has its roots in the Protestant work ethic. The Protestant work ethic values work for economic gain, ties work to worth and identity and is the “moral basis for American capitalism” (Day & Schiele, 2012, p.9). This is the basis for the definition of the “worthy poor”, and it could be argued that this value is partially responsible for our acceptance as a society of poverty among the disabled. It may also be a factor in low expectations for workers with disabilities and perpetuating stereotypes about the level of assistance that a disabled employee may need. “Otherism” as a byproduct of this American ideal contributes to discrimination of people with disabilities (Day & Schiele, 2012). It allows people to distance themselves from people with disabilities who are “different” and not to see them as equals, with the same human dignity and rights as any one of us.

Social workers have a role in challenging injustices when they are found. In the *Social Work for Social Justice: Ten Principles*, the role of the social worker in Dignity of Work and the Rights of Workers is outlined. It states, “if the dignity of work is to be protected, the basic rights of workers must be respected—the right to productive work, to decent and fair wages” (School of Social Work, 2006, p.1). Nowhere is this lack of justice more evident than in the rights of workers with disabilities. Discrimination and othering abound, yet programs to assist persons with disabilities are considered “successful” if they help employees obtain employment for sub-minimum wages. Clearly, this does not meet the minimum expectation of social justice we as

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social workers are responsible for advocating and acting upon. We can and should be doing more to improve services to clients and their access to quality economic outcomes.

The principle of Priority for the Poor and Vulnerable states that social workers “pursue change with and on behalf of vulnerable and oppressed individuals and groups to: address poverty, unemployment, discrimination and other forms of social injustice” (School of Social Work, 2006, p.1). Allowing systems to exist that financially exploit individuals with disabilities is not in keeping with this principle. Social workers have a responsibility to advocate alongside workers with disabilities to improve conditions and to change outdated policies that allow for this type of exploitation. Additionally, we have a responsibility to seek first-hand accounts from individuals with disabilities on what changes and improvements should be made to the current systems. Too many injustices have been committed by well-intentioned programs that never sought input from the people they were designed to serve. A just system cannot be created without qualitative feedback and support from the disability community. Programs need to be designed *with* the people we serve, rather than *for* them.

Implications for Future Research

The findings of this study merit future research on the relationship between economic independence and quality of life, particularly from the perspectives of VR participants themselves. It is the hope of this researcher that future studies will be designed to better meet the needs of this underserved population with an emphasis on inclusion, integration and high-wage employment opportunities. Future studies may look to the role that county, state, and federal assistance agencies play in creating barriers to these opportunities. If safety nets such as Supplemental Security Income (SSI), Medical Assistance, and housing supports are lost once a

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certain rate of pay is earned, low wage or part time work for disabled workers may be incentivized.

Future research in this area should also consider obtaining data from disabled workers, or those who would like to be working, firsthand. Secondary datasets such as the RSA-911 provide a wealth of valuable information, but this information is provided by VR counselors rather than the disabled workers themselves. Recommendations for data collection also include VR services RSA-911 to track work outcomes beyond 90-days for more accurate data on “successful” job placement. There is simply no way to determine long-term outcomes of VR interventions if there is no tracking beyond the first three months of employment. Finally, the results of this study indicate that there is a need for research to increase understanding of why job opportunities for disabled adults (particularly those with IDD) are often low-wage, entry-level positions. Best practices for person-centered supports could be designed to change this based on the findings of such research.

Conclusion

The promise of Vocational Rehabilitation has not lived up the ideal of giving workers with disabilities economic independence, and may even be a contributor to keeping disabled employees locked in poverty. There is little evidence in the literature demonstrating that social workers have consistently included adults with disabilities in the conversation on how to improve these programs.

The dearth of literature on the injustices of inequity in pay for persons with disabilities also suggests that social work has not lived up to the principles and ideas that the field espouses. There is much to be done in the areas of advocacy and policy change surrounding VR and supported employment. As mentioned previously, this should be done with input from the

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disability community to avoid some of the maternalistic errors social work has made in the past. The history of Vocational Rehabilitation may have had well-intentioned beginnings, but the outdated and antiquated practices (including lawfully paying subminimum wage to disabled employees) maintains a system of exploitation and segregation. Social workers must play a role as allies and advocates in changing these practices at the policy level, and can do more as a profession in supporting the employment goals of people with disabilities. Disabled adults have as much right to a fair wage as any other employee. Social workers historically have not been on the forefront of this issue, but can do more in the future to partner with the disability community to fight for social justice and inclusion.

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“There is one thing stronger than all the armies of the world, and that is an idea whose time has come.” -Voltaire

Appendix A

Table 3. Data Abstraction Grid

Title	Author(s)	Research Question	Design	Data Sources	Findings	Credibility	Bias	# of Participants	Economic Outcome Details
Not all jobs are the same: Predictors of job quality for adults with intellectual disabilities	Heyman, M., Stokes, J. E., & Siperstein, G. N. (2016)	What factors are associated with <u>high quality</u> competitive employment for ID workers?	National sample (cross-sectional) 3 outcome measures: wages, work hours, and health insa.	Gallup Poll from 2011 to 2012. 2835 with an ID adult in the HH 21+ screened. Final survey given to 1,055 parents of adult children with ID	Adaptive behaviors related to better job quality, as well as being at same job for 3+ yrs. Most competitively employed still earn min. wage or less and do not have health insurance offered by employer.	Yes, with limitations. No causation, only association between observed relationships. Clearly stated outcome measures.	Surveys completed by parents, may have reporting bias.	153 65%= M 35%= F	Getting a job is only ½ the story. 60% earned min wage or less (p.304) Of those earning higher wages, hours are sometimes reduced.
The outcomes achieved by previously placed supported employees with intellectual disabilities: Second verse same as the first?	Cimera, R. E. (2012)	Do supported employees who were prev. placed in jobs in the community have better outcomes than those not previously placed? Is SE a “value added” program?	Chi-Square and t-test of RSA-911 data (Cohort study)	RSA-911 of people with ID who had cases closed for “employment outcome” in prev. 36 mos.	Employees in the “re-placement” cohort were more likely to be employed (71.1% vs. 60.6%), work more hours/week, earn higher wages and cost less to serve than those seeking a 1 st placement	Yes, large sample size. Chosen based on national data and ID as well as employment status	Possible reporting bias since VR counselors and job coaches enter RSA info, rather than VR clients.	12,767 who were competitively employed and looking for new job & 12,767 who had not prev. been working and were looking for a job. 58.3% F 41.7% M Also div. by ethnicity and secondary disability	Looked at people who became employed. Changing jobs isn’t a “bad” outcome, as has been suggested, but is a normative exp. similar to that of non-disabled workers

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Title	Author(s)	Research Question	Design	Data Sources	Findings	Credibility	Bias	# of Participants	Economic Outcome Details
A Structural Equation Model of Vocational Rehabilitation Services: Predictors of Employment Outcomes for Clients with Intellectual and Co-occurring Psychiatric Disabilities	Austin, B. S. & Lee, C. L. (2014)	Do job-related VR services predict employment outcomes for clients with ID (and co-occurring psychiatric disabilities)?	Structural Equation Model (SEM) using RSA-911 data	2009 RSA Data set from all 50 states. Sample included only those with an IPE.	Job-related VR services significantly predicts employment outcomes	Statistically significant findings, warrants future research using a range of VR service delivery combinations and measuring their outcomes	RSA 911 entered by VR not clients, may have some selection bias in the variables these researcher selected	N=3,627 52.3% M 47.7% F	VR Services defined as : job-placement, job search assistance, job readiness training and on-the-job support
More Job Services-- Better Employment Outcomes: Increasing Job Attainment for People With IDD.	Nord, D. & Hepperlen, R. (2016)	What VR supports most relate to integrated employment for unemployed ppl with IDD? How does provision of more than 1 svc affect employment outcomes?	Logistic Regression Model (using RSA 911-data) -Descriptive statistics	RSA-911 (FY 2011)	Those receiving 3 job related services were 16x more likely to obtain employment than the reference group	Yes, b/c they hone in specifically on IDD seeking VR who were currently unemployed. limitations being correlational rather than causal (and this is addressed in discussion)	Confounding variable of VR users who had employment at time of application were eliminated from study	39,277 adults w/IDD	Empty 1 st model described. Employment is more likely with added VR supports (3 or more).
Disproportionate opportunities: Fostering vocational choice for individuals with intellectual disabilities.	McDaniels, B. (2016)	Do workers with ID have less opp. for employment settings and earnings than other disabled workers?	Descriptive stats, to compare ID employees to workers with other disabilities. (comparative analysis)	RSA-911 data for KY (FY 2012)	ID workers placed in food prep and serving at a much higher rate than other disabled workers. Mean earnings are 24-39% below earnings of other categories	Unclear what the size of population was, and of the 1,489, how many had ID vs other dx for (SOC) (p.21-22).	Not generalizable nationally; data set only for KY used.	N= 1,489	Earnings lower for ID than other disabilities. VR (SW) implication discussed.

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Title	Author(s)	Research Question	Design	Data Sources	Findings	Credibility	Bias	# of Participants	Economic Outcome Details
An integrated work skill analysis strategy for workers with significant intellectual disabilities.	Brown, L., Kessler, K., & Toson, A. (2016)	Examining a work skill analysis strategy for ID employees in integrated worksites	None. Follow up analysis of 2014 article. No new research conducted for this paper.	Survey? (unclear). Reads like a work plan for an employer, but does not appear to be grounded in any research.	Suggestions for worker safety and factors to consider before a worker enters the workplace. Suggestions for employer-side considerations.	Not at all. Appears to be opinion-based, not research.	Bias against population being researched was evident in ways they were discussed	unknown	Puts forth an outline for a written proposal to possible employers
Does being in sheltered workshops improve the employment outcomes of supported employees with intellectual disabilities?	Cimera, R. E. (2011)	Do participant in sheltered workshops become employed at higher rates than supported employees who did not have this intervention?	Random sampling used for cohort study. RSA -911 database	RSA -911 database	Not only were SE workers who were not in sheltered workshops as likely to find work, they earned significantly more, worked more hours and cost less to serve.	Yes. Large scale, random. Addressed limitations in study.	Addressed by using random sample of 192,756 VR clients with SE goals and an IPE	4,904 SE who participate in sheltered workshops and 4,904 SE who did not. M/F % in table 1 (p 23)	Opposite finding. "Negative value added"
Trends in Outcomes of the Vocational Rehabilitation Program for Adults With Developmental Disabilities: 1995-2005.	Migliore, A. & Butterworth, J. (2008)	What are the trends in closures in integrated employment ? What are the trends of earnings in integrated employment ?	Descriptive data analysis; Correlational data analysis.	RSA -911 database (FY 2003)	Whereas overall # of closures remained relatively constant for period of 95-05, closures due to integrated employment declined. Earnings increased slightly in integrated settings	RSA data may not be most reliable, since it is entered by VR workers not clients.	Inclusion of other DD categories could be seen as selection bias	60,289 with MR* (*their term)	VR program is doing better at not closing cases for "extended employment" i.e. Sheltered workshop. SES factors-wage gap is widening

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Title	Author(s)	Research Question	Design	Data Sources	Findings	Credibility	Bias	# of Participants	Economic Outcome Details
Ex-Post-Facto Analysis of Competitive Employment Outcomes for Individuals With Mental Retardation: National Perspective.	Moore, C. L., Harley, D. A., & Gamble D. (2004)	Which groups are most likely to get competitive jobs? What VR services are assoc. with getting these jobs? Which groups are receiving more VR services?	Correlational analysis via chi-square and logistic regression analysis	RSA-911 (FY 1998) Who were closed with Status 26	People with 4 key areas of VR services were 2x more likely to obtain a competitive job. People w/severe ID were far less likely to get these VR services	As with many of these studies, RSA data may not be most reliable, since it is entered by VR workers not clients.	Possible selection bias by VR workers who entered RSA data	28,565 adults with ID (MR in study) M=15,861 F=12,704	Looks at type and severity of ID (mild/moderate/severe) as an employment predictor and makes recommendations for VR services to support at all levels of disability
A longitudinal study of employment and skill acquisition among individuals with developmental disabilities.	Stephens, D., Collins, M., & Dodder, R. (2005)	Does employment change adaptive skills and challenging behaviors among individuals with IDD?	DDQARP survey. Analyzed data with 2-tailed paired t-tests	DDQARP survey, administered by trained interviewers annually.	As people move into employment, adaptive skills increase (and vice versa). Employment itself may be a significant source of adaptive skills and help in comm. living overall.	Good due to longitudinal design.	Unclear with this survey whether responses were solicited from employees, or family/car egivers	N=2760 M=1541 F=1219	Strong relationship between integrative employment and adaptive skills, but did not specify economic outcomes.
Predicting Weekly Earning for Consumers with Severe Disabilities: Implications for Welfare Reform and Vocational Rehabilitation.	Daniels, T. M. & Mickel, E. (2002).	Can selected variables predict weekly earnings for VR clients who were "successfully employed"	Ex-post facto with exploratory objectives. Inferential statistics	RSA-911 1998 data set for 1 NE city, selected from cases closed for reason "26" (Rehabilitated) then recoded for those with sig. disa =443	Education, age and prior work experience are predictors of earning power.	Weak findings, did not rely specifically on ID for data collection, but rather used RSA codes for "significantly disabled" from 1998 data set	Only used RSA data for 1 city in the NE	N=374 Later stated that 443 cases were used for this study 236=M 207=F	Human Capital Theory. Compared to welfare to work program to discrimination against disabled workers.

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Title	Author(s)	Research Question	Design	Data Sources	Findings	Credibility	Bias	# of Participants	Economic Outcome Details
Longitudinal investigation of vocational engagement.	Spreat, S. & Conroy, J.W. (2015)	What are the trends in vocational activity for group home residents with ID in Oklahoma over a 15 year period?	Longitudinal data collected through Oklahoma DHS's DD Quality Assurance Questionnaire (DDQAQ) Survey.	OK DHS's Dev. Disa division administered the DDQAQ (paid and trained interviewers). Data analyzed by Friedman test, correlational analysis and chi-square contingency tables	# of employed individuals w/ ID declined consistently over time of study. NONE of the people exceeded 1/2time work in this study's findings 189% increase in number of people w/o functional employment	Good, due to long term data. However, generalizability may be limited since this study was only done in 1 state. Unclear if survey was completed by staff or clients themselves	Only used data for Oklahoma . Not generalizable. Sampling bias possible?	216 M=140 F=76 (all lived in group homes)	People with ID are working less and less. Not going into sheltered, not going into anything. Employment 1 st model described.
National Core Indicators©: Data on the current state of employment of adults with IDD and suggestions for policy development.	Butterworth, J., Hiersteiner, D., Engler, J., Bershady, J. & Bradley, V. (2015)	Compares a # of outcomes for IDD workers, in and out of integrated employment	Survey- NCI administered ACS survey face to face with clients and family members/workers	NCI data (2012-13); survey.	14.7% had paid employment in the comm, though 47.1% indicated they would like one (per individual survey responses). Also found that people worked an avg of 25.5 hrs/wk in competitive jobs and earned avg of \$8.27/hr	Research Q was not worded strongly, hard to determine goals for the study. First survey that has a section just for the employee!!	More generalizable due to the large # of participants	13,157 adults from 26 states	Addresses low employ rate of IDD adults. Employ 1 st . Good definition of 3 types of integrated employment
Impact of coworkers involvement with supported employees on wage and integration outcomes.	Mank, D., Cioffi, A., & Yovanoff, P. (1999)	Does coworker involvement "natural supports" increase wages and integration, and if so what types?	Survey (completed by job coaches/VR workers).	Two rounds of surveys completed by job support personnel in 8 states.	Coworker involvement leads to better wages and integration at work for SE employees. Training for coworkers is related to higher wages and higher integration at work.	Somewhat. Individuals were not randomly chosen. Cause and effect relationships cannot be inferred.	Surveys were not completed by workers themselves.	462 employees in 1995 survey. 538 employees with disabilities in 1996 expanded survey.	Natural Supports are correlated to better outcomes. General disa training does not help, needs to be tailored.