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EFFECTS OF WORK EXPERIENCES ON THE POST-SCHOOL EMPLOYMENT OUTCOMES OF YOUTH WITH DISABILITIES: A STUDY OF ONE STATE VOCATIONAL REHABILITATION AGENCY'S TRANSITION PROGRAM

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A DISSERTATION APPROVED FOR THE

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

BY THE COMMITTEE CONSISTING OF

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Dedication

This completed dissertation is dedicated first to my family and also to my friends and colleagues who have been so supportive through my doctoral journey helping me turn my "hope" of having a Ph.D. into a reality. They have endured my many stressful days, nights, and weekends, missed attendance at events, listened to me with supportive hearts, and encouraged me every step of the way. Thank you for allowing me to continue to learn and grow as a professional. I also dedicate this completed dissertation to the passionate, caring, talented professionals—the vocational rehabilitation counselors, special education teachers, and others—who support students and youth with disabilities in preparing for life after high school. Thank you for entering and staying in professions with such value to those you serve. Finally, I would like to dedicate this to my doctoral committee for their expertise and faith in me, and, specifically, my chair, Dr. Teresa DeBacker, for the guidance and patience you have demonstrated throughout the dissertation process, and Dr. Mike Crowson for walking me through the statistical pieces of this adventure. You both helped me plug away even through the chaos of COVID-19.

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Abstract

This dissertation presents information on the predictive impact of work experiences, age at time of application for vocational rehabilitation (VR) services, and priority group category of eligibility on successful VR case closure (i.e., achievement of competitive, integrated employment outcomes) for transition age youth served by one state's VR agency. Using logistic regression, extant data were analyzed for transition age clients served by the agency over an eight-year time period, consisting of 8,966 participants. Results indicated age at time of application for VR services, priority group category, gender identification, and racial identification were each statistically significantly predictors of the ability of transition age clients to achieve a successful VR case closure. Work experience as a predictor was not found to predict outcomes. Among work experiences, Project SEARCH was the only work experience to significantly predict successful employment outcomes. Those individuals achieving higher rates of competitive, integrated employment tended to be in the less severe priority category of eligibility, older at the time of application for VR services, those who identified as male, and those who identified as White. Findings such as this inform the fields of special education and VR in considering the possible factors behind the results, examining their data further, and potentially changing their existing programs, policies, and practices or creating new ones to increase the employment outcomes of transition age clients.

Chapter 1

Introduction

Research indicates engaging in work experiences while in high school is one of many predictors of post-school success for students with disabilities (SWD). Although that is what the research indicates, the question still remains on whether the employment experiences and preparation activities of SWDs (including those considered to have the most significant disabilities) is reflected in their post-school outcomes, especially if they did engage in at least one work experience during high school. The intent is to identify the impact of work experiences on employment outcomes to help advance the field of knowledge in this area and to inform future practices of schools, vocational rehabilitation (VR) agencies, and others who are coordinating transition services for SWDs. Additionally, given the emphasis in federal laws around providing transition planning and coordination of services while school age, the effects on age at time of application for VR services was examined to determine its impact, if any, on post-school outcomes. Given the variance in significance of disability among transition age clients, the effects of priority group category of eligibility in relation to post-school outcomes was also examined.

Problem Statement

In an ideal world, all SWDs would receive comprehensive transition planning and coordination of services between their schools, parents, VR, and other agencies who have responsibility for providing such services prior to exit from high school. When such services are provided, the post-school outcomes of SWDs should improve reflected by higher rates of college attendance and completion, higher rates of employment, receipt of higher wages and employer benefits, and full inclusion in society. However, even with legislation mandating such

coordination of transition services take place for SWDs, enrollment and completion of higher education and rates of employment for SWDs are still lagging behind those of individuals without disabilities (Blackorby & Wagner, 1996; Scuccimarra & Speece, 1990). Collaboration should occur at all levels as soon as transition is addressed for all SWDs, and students should be afforded every opportunity to learn and grow as a lifelong learner and as a future employee—including engaging in paid and unpaid work experiences in the community while they are in high school. We should witness a narrower gap in employment outcomes between SWDs and those without disabilities.

Significance of the Study

Examining the employment outcomes of SWDs in relation to services received in transition will assist the professionals in special education and VR to ensure they are coordinating service delivery. Having had a work experience while in high school has been demonstrated to increase the likelihood of obtaining competitive, integrated employment (CIE) after high school. There is not much in the literature differentiating between the impact a paid work experience has versus an unpaid work experience, and this study aimed to provide information to help identify which of the four types of work experiences (two paid and two unpaid) resulted in higher employment rates for SWDs in one state's VR agency. Results will be used to inform future practice of the VR agency in effectively serving youth with disabilities and helping them prepare for, obtain, and maintain employment.

Research Purpose

The purpose of this study is to examine whether the predictor of engaging in a work experience during high school years positively impacts CIE after high school for SWDs. In addition, to help practitioners evaluate the effectiveness of specific work experiences and age at

which services are most effective, each of the four work experiences will be evaluated in relation to age at time of application for VR services and priority group category (i.e., severity of disability).

Research Questions

How does participation in work experiences while in high school impact the post-school employment outcomes for youth with disabilities? Two research questions were addressed.

1. Does having a VR-related work experience predict successful VR case closure (i.e., achievement of CIE) among transition clients, after controlling for priority group category, age at time of application for VR services, gender identification, and racial identification?
2. Among those individuals receiving work experiences through their VR program, what types of work experiences (i.e., participation in specific programs) are most predictive of successful VR case closure, controlling for age at time of application for VR services, disability priority group category, gender identification, and racial identification?

Chapter 2

Review of Literature

For people with disabilities, achieving employment outcomes equal to people without disabilities has been and continues to be a challenge. Service coordination and collaboration among all partners is critical to the success of students with disabilities (SWD) (Mlynaryk, Laberge, & Martin, 2017). Yet, people with disabilities continue to experience lower rates of employment compared to individuals without disabilities. In fact, in 2018, individuals with disabilities were employed at a rate of 19.1% compared to those without disabilities at 65.9% (Bureau of Labor Statistics [BLS], 2018). Additionally, there was a 14% difference between individuals without disabilities working part-time (17%) compared to those with disabilities (31%). Considerations must be given regarding an individual's choice to seek employment or not—just like their counterparts without disabilities; however, the problem exists when individuals with disabilities want a job and cannot get one or do not have the credentials necessary to obtain a given job. The unemployment rate of people with disabilities (8%) in 2018 was more than double that of those without disabilities (3.7%) (BLS, 2018); however, statistics may not even show the true number of individuals with disabilities who are unemployed if they are not actively seeking employment and have just given up trying due to the difficulty of obtaining a job. This paper examines employment outcomes of youth with disabilities, as indicated by closure information from the state's vocational rehabilitation (VR) system, and investigated the effect of work experiences (paid and unpaid) on such outcomes as well as age at time of application for VR services and priority group category of eligibility on such outcomes.

Closure is a term used by state VR systems to indicate when an open case has been closed (i.e., services cease). There are essentially two closures—rehabilitated (successful) and

non-rehabilitated (unsuccessful). Only those individuals who applied for and received VR services through an individualized plan for employment who achieved their vocational goal of competitive, integrated employment (CIE) would be considered rehabilitated, and, therefore, a successful closure. All other individuals served who did not achieve CIE would be considered non-rehabilitated. At the time of closure, which is typically after 90 days of successful employment, VR services cease.

Priority group categories used in the Oklahoma VR program serve as a way to manage client capacity by designating severity of disability in relation to barriers to employment. The Rehabilitation Act as amended by the Workforce Innovation and Opportunity Act (WIOA) of 2014 allows for state VR agencies to use such a system of order of selection (OOS) (i.e., waiting list or delayed status) when there may not be sufficient funds and resources to serve all who are eligible (WIOA, 2014). To ensure individuals with the most significant disabilities receive services first, VR counselors will use all available eligibility information to determine significance of disability, functional limitations, and barriers to employment while identifying to which of the priority group categories the individual would be placed. States are given discretion in how they determine their priority groups; however, there is an established criteria for designating someone as having a significant disability, which includes limitations on one's functional capacities due to a disability, the necessity for multiple VR services over an extended period of time, and the existence of one or more disabilities.

With such guidance, states could then develop their priority groups, which in Oklahoma there are three. The first group to be served would be those individuals with the most significant disabilities limiting three or more functional capabilities (i.e., priority group 1). While priority group 2 would consist of those individuals with significant disabilities limiting two functional

capabilities. Finally, priority group 3 is considered the non-significant category and would include individuals found to have disabilities limiting at least one functional capability. All categories have the criteria that any individual found eligible would require multiple VR services over an extended period of time and be able to benefit from such services toward reaching a vocational outcome.

All eligible individuals are placed into one of these three priority group categories in Oklahoma; therefore, this is inclusive of all transition clients served by the VR agency. Considering priority group category in relation to the findings of this study was important to determine if significance of disability impacted employment outcomes and if work experiences (and specific experiences) impacted outcomes differently for students based on significance of disability.

In addition, when it comes to programming and service provision, VR agencies are given the liberty and flexibility of developing such programs and services to meet the needs of their clients with disabilities, while not only being innovative but also following financial and legal restrictions (WIOA, 2014). This includes, but is not limited to, developing job clubs, work experiences, short-term pre-employment transition services, and other programs and services. Current literature is sparse regarding the relative value of paid versus unpaid work experiences for SWDs. The present study tested for differences in work experiences in general as well as between each specific work experience program as predictors of post-school success for SWDs to help fill the gap in the current literature.

Employment-Related Skills

Taylor, McGilloway, and Donnelly (2004) reported many SWDs lack skills necessary to compete for jobs in the community. These include hard skills, such as understanding specific

work tasks, and soft skills, which include things like working well in teams, being punctual, taking initiative, and problem solving. Additional challenges facing SWDs include communication, social, and independent living skills. These challenges affect the employment outcomes of SWDs and help us understand why they are not considered for competitive positions, thereby exacerbating the existing inequality of employment outcomes. Understandably, these are the essential skills learned through hands-on work experiences.

Rusch and Wolfe (2008) argued schools are not doing their due diligence to ensure youth with disabilities finish high school, obtain employment, engage in postsecondary education or training, and are fully included in community living and leisure activities. They maintained the 2004 Individuals with Disabilities Education Act (IDEA) needs stronger language to put more accountability on schools to work and subcontract with agencies to help youth achieve better post-school outcomes, as indicated in the requirements of coordinating transition services in IDEA 2004. Improvements have been made in the coordination and delivery of transition services for SWDs, but, as in many cases, there are pockets of excellence at state and local levels. In addition, schools need time, resources, and skills to establish relationships with businesses in the community to provide robust and quality career development and work experiences for youth with disabilities (Anderson-Butcher, Stetler, & Midle, 2006).

High stakes testing and increased accountability for schools has made it challenging to establish school-employer partnerships (Carter et al., 2009c). Evaluation of student progress and teacher effectiveness through the use of standardized tests puts pressures on teachers to provide relevant and rigorous academic instruction. Many teachers express not having enough time to do anything beyond academic instruction to ensure all standards get covered prior to state testing. This limits the opportunities teachers and students have to engage in authentic transition

planning and activities and results in students not being prepared to work with other agencies, such as VR, when they become transition age. When businesses are engaged in transition activities coordinated with teachers, they often include guest speaking at schools about what employers want in employees, sharing school information on the company website or in a newsletter, and sponsoring job shadow or career day events (Carter et al., 2009c). Additionally, when surveyed, employer networks over one-year period reported providing work experiences and other opportunities for youth without disabilities at a significantly higher rate than for youth with disabilities (e.g., work experiences of 12.7% v. 1.7%).

Having a high school diploma benefits SWDs in having a credential toward achieving CIE; however, the diploma itself does not provide a picture of the student's skills, abilities, and work readiness—it merely indicates the student met the academic requirements of graduation. Benz, Lindstrom, and Yovanoff (2000) agree that merely succeeding in developing academic skills is not sufficient to improve post-school outcomes; students must also gain skills in functional academic and transition areas, be aware of vocational opportunities matching their interests and skills, and develop strategies for gaining postsecondary education and employment experiences. The reality is many schools still operate with a very traditional academic focus without being intentional about transition services, the individualized nature of special education, and the activities and services that can be utilized to help SWDs better prepare for life after high school.

The devaluing of the high school diploma or academics is concerning but a reality in that local control allows school districts to promote students based on their own established criteria and allows teachers more freedom in how they grade student work. Such local control and freedom of student promotion is another example of inconsistency in achievements of people

with disabilities. For example, in one district, there could be more students graduating with a standard diploma while another district may have more students reaching the maximum age of eligibility and never receiving a diploma because they did not achieve all of their credits for coursework and possibly due to significance of disability. Programming options vary as well in that some districts do not allow their SWDs to work off campus, and, for those they allow to work, they provide only limited jobs, such as custodial or food service. Expectations may be different, and whether or not they receive a diploma, SWDs could still exit school without the necessary transition skills (e.g., self-advocacy skills and soft skills) to enter into CIE. The diploma also is not a representation of the skills students have for employment. How those skills are identified, enhanced, and matched to future jobs is part of the transition planning process intended to start in schools and continue beyond.

Unintended Consequences

Although the 2004 IDEA reauthorization did include strong language about secondary transition planning, it also created a barrier to coordination of community services between schools and other agencies. It is a requirement of 2004 IDEA that school staff must get written parent permission for any entity providing or paying for transition services to be invited to attend an individualized education program meeting. In 2014, the WIOA, Title IV Amendments to the Rehabilitation Act of 1973, required VR counselors to attend individualized education program meetings when invited; however, the two laws contradict each other in freedom of staff participation. Under the IDEA, schools are charged with sharing information with families about VR and for referring SWDs to VR; however, schools must obtain parental signature/consent for VR to be invited to attend meetings. Under WIOA, VR counselors are expected to be present in schools, doing outreach to potential SWDs, attending individualized education program and

other meetings, and coordinating transition services, including pre-employment transition services, with schools. This coordination and collaboration becomes a significant challenge if consent cannot be obtained for VR involvement and does a huge disservice to the youth; however, lack of VR services does not preclude schools from fulfilling the transition service requirements under IDEA. Restrictions such as this do not allow schools, VR, and other service providers the professional freedom to work together to benefit the youth. The inconsistency in legal requirements between education and VR continue to exacerbate the challenge of helping SWDs access adult services and compete for jobs. The next section draws attention to the poor employment rates of people with disabilities.

Employment Defined

There are several types of employment available to people with disabilities—self-employment, full- and part-time employment, employment in community settings, employment at subminimum wage, employment within sheltered environments, temporary, seasonal, shift work, and more. Researchers are inconsistent in their definition of employment for data collection and reporting, which results in skewed data regarding the employment of people with disabilities, such as whether they are working full-time or part-time or if they are earning a competitive wage or a subminimum wage. For consistency of reporting, researchers and state/federal reporting must ensure that comparison across individuals includes a universal definition when looking at employment outcomes. In the 2014 WIOA, competitive, integrated employment was defined as full- or part-time work with compensation at or above that specified by the Fair Labor Standards Act of 1938 or minimum wages set by state or local laws, providing benefits when eligible, in a setting in which employees interact with other people without disabilities, and that offers opportunities for advancement. This serves as a common definition

that should be utilized for research and follow-up studies and was adopted throughout this paper. Employment or work-related situations not considered in this study include those instances where the individual was receiving subminimum wages, volunteering, or working in segregated workshop settings, enclaves, or other group work situations. Utilizing a common definition for CIE aligns with federal law and would yield consistent reporting of employment outcomes for people with disabilities. Such consistency in reporting allows state agencies, schools, and community employment providers to understand the nature of employment of people with disabilities and use such data to make changes in their policies and practices to support CIE.

Employment Outcomes of Youth with Disabilities

Employment rates for SWDs continue to be significantly lower than their peers without disabilities (Newman, Wagner, Cameto, & Knokey, 2009; Roessler, 1987). Lack of common definitions for data collection and reporting coupled with ineffective (or lack of) coordination of transition services continue to present challenges for SWDs. As evidenced below, statistics continue to paint the same picture over decades of the unemployment and underemployment of people with disabilities. Why this problem continues to exist is puzzling, given mandates in federal laws, improvements in evidence-based practices, and provision of assistance through national technical assistance centers. Could schools be doing more than merely focusing on academic standards by integrating soft skills and employability skills into their transition service provision? Could VR agencies improve their collaboration with schools to increase and improve service provision to SWDs? Clearly, there is more all stakeholders could do to help SWDs achieve better employment outcomes, especially considering how little their outcomes have changed over the years. Lack of information on the part of employers, inexperienced student workers entering the workforce without necessary skills to be successful on the job, and

significant physical or cognitive disabilities are barriers to hiring SWDs (Mlynaryk, Laberge, & Martin, 2017).

Employment rates of youth with disabilities in August 2011 were reported by the Office of Disability Employment Policy (ODEP) (2014) to be 13.2% for youth with a disability ages 16 to 19 compared to same age nondisabled peers at 29.2%. In August 2014, the employment rates were 16.6% and 29.9%, respectively. For the 20 to 24 age range, youth with disabilities achieved a 31.2% employment rate in 2011 and 31.6% in 2014, while peers without disabilities achieved 62.9% in 2011 and 65% in 2014. These statistics provide evidence of no significant growth in employment outcomes over the three-year period across the age groups for the 16-19-year olds nor the 20-24-year olds, despite the increased emphasis on transition programs and outcomes for SWDs during secondary education.

Dating back to 1961, Dinger conducted a follow-up study of students categorized as educable mentally retarded (i.e., having an intellectual disability [ID]) when attending school. Of the 333 respondents to the follow-up survey, 196 (59.8%) were employed while 43 (12.9%) were unemployed. Dinger narrowed his study population even further based on employment status and residential area, and conducted home visits to complete interviews with the final 100 participants. While looking at areas such as employment procedures, job duties, required personal and academic characteristics, and appropriateness of such jobs for other students with ID, he established 80% of the group regarded a high school diploma as a means to employment and not as a demonstration of knowledge.

Most of the jobs held by the participants in the Dinger (1961) study were of the unskilled nature and secured through assistance from friends and family members. Earnings for this group were between $365 and $7,800 per year, with $3,327 being the average. Keep in mind the

minimum wage in 1961 was $1.15 per hour (Wage and Hour Division, n. d.), and median family earnings were $5,700 (Census, 1961). Interestingly, 82% of the participants were self-supporting financially, while 15% were single, received the lowest wages, and relied on parents for financial support.

Since the 1980s, SWDs have experienced lower rates of employment, lower wages, and lower-skilled jobs than those of their peers without disabilities (Mithaug, Horiuchi, & Fanning, 1985; Scuccimarra & Speece, 1990; Roessler, 1987). VR services have been present but not provided to or accessed by all eligible SWDs further exacerbating the inequities in employment levels and quality of employment (Dinger, 1961; Roessler, 1987). More than 63% of survey respondents between the ages of 19 and 29 lived at home with parents and had never engaged in VR services (Mithaug et al., 1985), while only 52.3% of respondents indicated receipt of job placement assistance from VR or other agencies (Roessler, 1987). Although a large percentage of participants (69%) in the Mithaug et al. (1985) study were employed, their earnings were at or below the minimum wage of the time and most on a part-time basis. Another factor attributing to these low wages may be that most jobs created in the 1980s and 1990s were in low-paying service areas (Blackorby & Wagner, 1996). Yet again, this demonstrates another factor to consider when looking at employment outcomes and factors that affect them.

Additionally, when VR services are taken advantage of and coordinated with schools and other partners, data from the Rehabilitation Services Administration indicated students receiving VR transition services earlier were significantly more likely to become employed after high school than those receiving VR services beginning at age 16 (i.e., 58.8% compared to 45.6%); however, no significant difference in wages earned or hours worked was evident. One would believe participation in services earlier would allow SWDs to develop and master specific skills

over a longer period of time resulting in ability to obtain more complex jobs with possibly higher pay. The question still remains about what VR counselors are actually providing and if there are opportunities for SWDs to build skills necessary to obtain skilled or high-tech jobs as well as an intentional focus using information for career planning and developing around entry requirements, employment trends, and in-demand jobs (Roessler, 1987). Given the outcomes of the Scuccimarra and Speece (1990) study, it appears consistent with Roessler's assertion that there is not an emphasis on seeking jobs requiring a higher skill level for SWDs. Only 52.3% of those surveyed indicated they had received job placement assistance from VR or other agencies.

Exactly what VR and other coordinated secondary transition services were received varies greatly and is undetermined in the specified studies. However, given that VR's focus is on helping people with disabilities prepare for, obtain, and maintain employment and advance in their careers, how SWDs actively engage in such activities and services bears noting. Consideration must be given to the variability in who the VR agency serves, how VR counselors determine eligibility, and what services are offered across the state. Also, since having a work experience during high school has been demonstrated to be a predictor of post-school success (Test, Mazzotti, Mustian, Fowler, Kortering, & Kohler, 2009; Bellman, Burgstahler, & Ladner, 2014; Wehman, Sima, Ketchum, West, Chan, & Leucking, 2015), it is important to investigate if VR, schools, and other providers are affording opportunities for such experiences to take place. Roessler (1987) compared outcomes of SWDs who had or had not engaged in summer work opportunities during their high school years. Of those who reported having summer jobs (72%), they obtained employment rates after high school of 80-89%, while those without summer job experiences had only achieved a 55% employment rate. Similarly, a post-school follow-up study was conducted by Scuccimarra and Speece (1990) of SWDs who participated in a self-contained

classroom that included a work study component during their junior and senior years in the 1980s. Of the 65 students who completed the follow-up interviews, 78.5% were employed, with the majority being full-time for more than one year, and earning more than the minimum wage (i.e., greater than $3.35 per hour) in unskilled positions within the clerical/sales and service areas (similar to the 1961 Dinger study).

Interaction with VR leads to higher employment outcomes as does engagement in work experiences during high school; however, as indicated earlier in the Mithaug et al. (1985) and Scuccimarra and Speece (1990) studies, the jobs being obtained by SWDs continue to be in those unskilled positions paying low wages, which results in many young adults with disabilities continuing to live at home with parents due to the expense of living on their own. Employment outcomes of youth with disabilities continue to consistently lag behind those of their peers without disabilities, as evidenced by results of the National Longitudinal Transition Study (NLTS) tracking outcomes from two-to-five years after high school completion (Blackorby & Wagner, 1996).

Continued poor employment outcomes of people with disabilities is shocking given the national focus on coordination of services between education, VR, and other adult serving agencies. Adding to this is the inconsistency in definitions of employment, lack of focus on social and employment skills in the public schools, and a VR trend of merely ‘getting’ a job as opposed to looking at career paths or in-demand jobs matching interests and skillsets. Regardless of what is mandated in law, implementation at the local level looks very different across teachers and across VR counselors. Although coordination of transition services is required in law, how those services are actually coordinated (if at all) affects the outcomes of SWDs. Employment outcomes also affect the level of independent living achieved by SWDs once out of high school.

If one does not earn a living wage, their ability to live independently is greatly hindered, as indicated in the Scuccimarra and Speece (1990) findings. Students with disabilities lag behind their peers without disabilities in employment and independent living, even after years of improvements, research, and practical application. Legal mandates along with implementation and collaboration at the local level are required to facilitate improved post-school outcomes for SWDs.

Work Experiences and Factors Associated with Employment Outcomes

Lindstrom, Paskey, Dickinson, Doren, Zane, and Johnson (2007), in a study of 133 young adults, teachers, school staff, parents, and VR counselors, identified four recommendations for preparing SWDs for employment, one of which was engagement in career exploration and work experiences during high school. The benefits of having a more solid foundation of career awareness include knowing more about one's self and possessing the ability to set more appropriate postsecondary goals. This solid foundation lends credence to the Dinger (1961) study in that employers communicated a need to have specific skills developed in young adults—skills that were not job task specific but more in the nature of "soft" skills, such as hygiene and grooming, punctuality, work speed, responsibility, and memory for directions. In addition, lack of work experience and work roles also leads to feelings of isolation, lack of social connections, reduced ability, or feelings of making meaningful contributions (Lysaght, Petner-Arrey, Howell-Moneta, & Cobigo, 2016). Similarly, Carter, Trainor, Ditchman, Swedeen, and Owens (2009a) recommended SWDs have a variety of job experiences throughout their transition years matching their interests while increasing skills to expand their knowledge of career fields available, and, in turn, help decide which fields they like or dislike. For some students, such work experiences provide clarification regarding what they thought they were interested in,

because in reality they actually do not like their chosen field once they get hands-on practice in that area. All of these experiences should contribute to the achievement of CIE after high school for SWDs. McDonnall and O'Mally (2012), in a study of early work experiences, found multiple work experiences coupled with longer time spent on individual work experiences had increased post-school outcomes for SWDs. This lends support to the importance of engaging SWDs in career exploration/employment readiness activities while in high school (Mlynaryk, Laberge, & Martin, 2017).

Such recommendations are supported by years of research and a systematic review of the literature culminating in a set of predictors of post-school success for SWDs (Test et al., 2009). Covering specific topics, providing concrete activities, coordinating transition services, and providing key instruction should take place to help SWDs improve their post-school outcomes, including employment outcomes. The following sections present several of the predictors and recommendations.

Colley and Jamison (1998) found SWDs who had paid or unpaid work experiences during high school earned higher wages after high school than students who had not had similar experiences. Martz (2003) examined paid and unpaid work experiences and found individuals with disabilities who engaged in paid work had better employment outcomes than those in unpaid situations. Additionally, Lindstrom et al. (2007) discussed how work experiences helped students better understand the realities of work, build work ethic, develop skills and habits, and build self-confidence. Students are accustomed to performing in a classroom, where they may not actually demonstrate their best work or diverse/nonacademic skills. Real work experiences give them an opportunity to demonstrate what they know and how to apply learned skills in a different setting—oftentimes surprising even their own teachers and parents. An example of

these limited expectations was demonstrated at an end of a summer work experience program celebration in Oklahoma in which one mother said she never knew her daughter could do the tasks she did on the job at a movie theater (e.g., sweep, empty trash, clean seats) because she never had or expected her daughter to do chores at home. This was a high school student who was very capable; yet, assumptions were based on her performance in school and at home with very low level expectations. This focus on independence and ability to explore and demonstrate skills is also supported by the findings of Lindstrom et al. (2007) with the inclusion of high expectations and removing assumptions—something educators, VR counselors, and parents must have and do to change the poor employment outcomes of SWDs. Given the position and proximity to the students each of the service providers and parents have, and the body of evidence indicating the direct impact work experiences have on future career development, those supporting youth are in a great position to help guide SWDs while demonstrating the connection between such work experiences and their lifelong goals (Mortimer, 2010).

Benefits of work experiences. In addition to work experiences being beneficial for SWDs in terms of gaining valuable work skills, the experiences also serve as a form of influence and education about jobs available and dispelling myths about specific career fields (Kennedy & Belgamwar, 2014). In a study where students experienced job placements within the field of mental health, 92% of the students indicated a desire to pursue a job in healthcare after the experience, as compared to 56% before the experience, indicating their idea of the field included an antiquated version of an asylum. This four-day work experience proved to be effective in increasing youth awareness about the career field as well as attitude toward mental health. Similarly, Loughead, Liu, and Middleton (1995) demonstrated paid work experiences resulted in

improved career attitudes and career decision-making skills for at-risk youth, while Creed and Patton (2003) found increases in the development and enhancement of career maturity.

Work experiences taking place within community businesses allow students to discover their gifts and talents, develop social (Wehman et al., 2015) and decision-making skills, and explore and interact within work contexts (Mortimer, Zimmer-Gembeck, Holmes, & Shanahan, 2002). There is a growing body of research indicating how essential high school work experiences are to preparing for the future (Rusch, Hughes, Agran, Martin, & Johnson, 2009; Mortimer, 2010). Surprisingly, a large number of youth with disabilities engage in no form of work experience either during the school day or after school hours (Carter, Ditchman, Sun, Trainor, Swedeen, & Owens, 2009b). Lack of such experiences prevent SWDs from knowing the range of career options available (Lindstrom, Kahn, & Lindsey, 2013) and continue to exacerbate the low post-school employment outcomes for SWDs (Test, Mustian, Mazzotti, & White, 2009).

Students with disabilities are not the only beneficiaries of engaging in work experiences—employers benefit too. Businesses are actively engaging their community members in addition to sharing information about and access to their own businesses. Businesses also learn more about disabilities in general, people with disabilities, and accommodations, and may actually have concerns or misperceptions diffused through such experiences (Wehman et al., 2015).

Transition Education Practices

Since the reauthorization of IDEA in 1990, secondary transition planning and services (i.e., transition education) have been a focus of federal law and local implementation. Transition was further expanded upon in the 1997 reauthorization (Kohler & Field, 2003) and 2004 reauthorization in which states now had four specific indicators for which they were responsible

for tracking and reporting regarding SWDs. These included graduation rates, dropout rates, secondary transition components of the individualized education program, and post-school outcomes (IDEA, 2004). In addition, schools were to help SWDs develop a summary of performance to help document what they had done to achieve their postsecondary goals, what was left to be done, and what supports and accommodations were necessary to help the SWDs succeed in achieving their goals. The summary of performance was intended to be a tool SWDs could take with them as they transitioned out of high school and into the world of postsecondary education/training and employment, not only to help seek accommodations in higher education but to help increase employment outcomes by having a tool to share with employers, if one so chooses to share their summary of performance, thereby disclosing their disability.

Transition education emphasizes focusing on the strengths, interests, and preferences of the SWD as educators work with the student and their family to develop the individualized education program, plan for the course of study, and as they coordinate services with other entities responsible for paying for or providing transition services. IDEA (2004) clearly communicates the purpose of special education to include preparing students for post-high school education and employment, done meaningfully, to help direct individualized education program teams in making programming decisions (Kohler & Field, 2003). In an attempt to increase transition education knowledge for special education professionals, Kohler, Gothberg, Fowler, and Coyle (2016) introduced the Taxonomy for Transition Programming 2.0, consisting of five key areas with concrete practices found to be effective for transition planning: (a) family engagement, (b) program structures, (c) interagency collaboration, (d) student development, and (e) student-focused planning. The most recent version of the taxonomy reflects current literature about the predictors of post-school success for SWDs (including work experiences during high

school). Using the taxonomy aids in better coordinated services, instruction, and experiences helping youth achieve normalization in post-school life (Kohler & Field, 2003). Transition-focused education is also, according to the authors, not a one-shot deal or a box that gets checked off—it is a combination of meaningful school and community-based experiences geared toward a student's individual learning and support needs, preferences, strengths, and interests.

Effective practices for increasing post-school employment. Mithaug et al. (1985) state, "…there should be an examination of the activities that are having a positive impact and an identification of those that need changing to further enhance long-term outcomes" (p. 403). Research in the field of post-school outcomes has deepened our understanding of the effective practices necessary to help youth with disabilities achieve employment. Mithaug et al. (1985) refer to the studies or interventions in previous years that are more of a one and done kind of approach and how little effect they have on the post-school outcomes of SWDs. Keeping with that mindset, Test et al. (2009) support effective practices in transition planning through a literature review they conducted around the areas which help SWDs prepare for life after high school. As a result, they developed the predictors of post-school success to be considered by educators, agency providers, and parents to help SWDs improve outcomes in education, employment, and independent living. The predictors represent years of research to identify those specific activities, actions, or topics that result in improved post-school outcomes for youth with disabilities.

Predictors of post-school success. There are many other elements, beyond just graduating from high school, earning a diploma, or meeting federal requirements that are critical to being successful in life. This is supported by the original research conducted by Test et al. (2009) and later expanded by Rowe, Alverson, Unruh, Fowler, Kellems, and Test (2015), which

found 20 areas of in-school activities and approaches that help SWDs improve in post-school endeavors. Within the 20 predictor areas, three were specific to employment readiness—career awareness, paid employment/work experiences, and work study.

As indicated above, having a work experience while in high school tends to lead to better post-school employment outcomes (Colley & Jamison, 1998; Lindstrom et al., 2007). In fact, McDonnall and O'Mally (2012) recommend SWDs engage in more than one paid work experience over longer periods of time during high school, rather than having more short-term experiences. Work experiences are one of the 20 predictors of post-school success and provide opportunities for youth to try jobs they think they like, learn employability hard and soft skills, acclimate to the world of work, and earn money. Consistent with this finding is research conducted more recently by Wehman et al. (2015) in their examination of data from the National Longitudinal Transition Study (NLTS-2). They analyzed extant data to identify predictors of post-school employment success of over 2,900 former SWDs. One of the strongest predictors of post-school employment of high school SWDs was having work experiences during high school years.

Providing such opportunities for work experiences does not happen in a vacuum nor in isolation. It requires high levels of collaboration between schools, VR, employers, and other community partners to ensure SWDs are provided opportunities to work, get paid, and earn high school elective credit for time worked, whether it is during or after school hours. This level of service coordination will help SWDs gain experience and begin to determine what they like and do not like while building work skills necessary for success.

Estrada-Hernandez, Wadsworth, Nietupski, Warth, and Winslow (2008), in a study of 115 students with varying disabilities, found 21.70% preferred food service and preparation,

which is typically associated with low wages. Severity of disabilities accounted for 8% in the variance of monthly wages equating lower wages for students with more significant disabilities. They attributed this to the students' interest in occupations that are typically paid low wages; however, the jobs are a good fit based on their interests. When surveyed for good job fit, more than 50% stated their job matched their interests. Therefore, the authors recommend the development of career maturity in students to: (a) allow them the time to gain knowledge about careers, (b) have hands-on experiences in work settings, (c) gain paid work experiences, and (d) even possibly plan for a postsecondary education degree that would afford them a higher paying wage—all further supporting the necessity for providing work experiences for SWDs. Bellman et al. (2014) also found participation in targeted work experiences (e.g., job shadowing and internships) resulted in higher employment rates for SWDs compared to those SWDs who did not engage in such activities. Additionally, their motivation to work toward a career and knowledge of their own career field of interest increased as a result of their internship experiences. "Exploring employment expectations earlier in the transition process may allow students with disabilities to identify occupational areas that, in later stages of development, will provide them with both desirable employment and greater economic outcomes" (Estrada-Hernandez et al., 2008, p. 20). These findings follow the previously mentioned findings regarding SWDs acquiring unskilled low-wage jobs (Dinger, 1961). VR agencies engage in assessing the student's knowledge of available jobs and careers, provide learning experiences, and help them make informed choices.

Programs Facilitating Employment Outcomes

The 1961 study by Dinger involved looking at the employment of young adults with ID. During that study, Dinger found employers to be quite supportive of hiring individuals with

disabilities and even sponsoring training programs to prepare for employment within their businesses. Dinger also noted employment success was based more on personal characteristics (e.g., punctuality, courtesy, and neatness) than on intelligence (also comments often shared by employers). Young adults do not develop work skills on their own. It takes a team (i.e., schools, families, businesses, and other agencies) to take a comprehensive approach to ensuring hard and soft skills are taught, community experiences are provided, and that coordination of services does not happen in a silo. Although amazing experiences can be provided in classroom settings, the only way to truly help transfer those skills to other settings is by learning and practicing in those settings as an extension of the educational process (Dinger, 1961). Employment readiness activities are most effective when done in the workplace alongside co-workers encompassing all of the aspects that come along with a job (i.e., problem solving, praise, criticism). SWDs in the Bellman et al. (2014) study not only demonstrated increases in career knowledge and interest, but, through internships, they also developed more career maturity, self-advocacy skills, self-confidence, understanding how businesses operate, and other job-related skills only achieved by working side-by-side with employees at the business.

Given the predictors of post-school success (Test et al., 2009) have a strong emphasis on career development, independence, and coordination of services, it seems fitting to introduce a program for SWDs that encompasses the critical areas identified through the predictors. One such program is Project SEARCH—an internationally recognized employment readiness program for SWDs in their final year of high school that provides a total immersion in the workplace experience (Wehman et al., 2012). This model demonstrates coordinated services between schools, adult service agencies, parents, and businesses such that each plays a significant role in the implementation of the program. Student interns, who are VR clients, set a

vocational goal, participate in three internships of up to ten weeks each in different departments of the host business, have supports from the VR agency during the program (and after if needed), learn employability skills from the school, and obtain competitive, integrated employment upon completion. Project SEARCH provides a seamless transition from the classroom instruction and work-based learning and support to employment within the community. A benefit of the program is that it not only meets the needs of the SWDs, but it also supports the mission of the host business, increases diversity, and better mirrors the community in which it serves. To illustrate its success, Wehman et al. (2012) found that 78.3% of students who completed Project SEARCH obtained competitive, integrated employment in the community—a number quite higher than what is typically required in federal law for job placement (i.e., around 55% in WIOA [WIOA, 2014]).

Just as building relationships with employers is key in Project SEARCH, Taylor et al. (2004) found addressing the concerns of employers and their employees is equally important in helping youth transition from school to CIE. Similarly, with the flexibility offered in today's workforce (i.e., flexible work hours, telecommuting, assistive technology, employee assistance programs, and tax incentives), the possibilities open up for meeting the needs of employees while also meeting the needs of the employer (Roessler, 1987). Given the changes in work options, it would seem natural to expect an increase in the employment rates of SWDs, coupled with requirements in WIOA (2014) and the various supportive services available through VR.

Another model full immersion employment readiness program demonstrating success in employment outcomes of SWDs is the Marriott Foundation's Bridges Employment program which consists of three phases: (a) orientation and goal setting, (b) preparation including career guidance and job search training, and (c) internship with support (Fabian, Lent, & Willis, 1998).

The authors focused on three outcomes to determine if they could identify factors affecting such outcomes: (a) completing an internship program, (b) accepting job offers, and (c) seeking further education or employment within six months of completion. The study examined the outcomes of 2,258 SWDs who participated in the Bridges program between 1990 and 1995. They found of the 76% who completed the internship, 71% accepted job offers, and 84% of those were either employed or in educational programs. The number of hours worked in the internship had a positive correlation with internship completion (r = .33) and job offer acceptance (r = .24). Completing the internship also strongly correlated (r = .55) with employment or further education. Gender identification, racial identification, and priority group disability category did not have a significant impact on outcomes (i.e., average r = .04).

Current Employment Data

Four years of case management information for two states who have active and robust VR transition programs (i.e., Oklahoma and California) cause practitioners to question the relevance and effectiveness of the federal mandates and delivery of coordinated transition service delivery for SWDs in school. An analysis of extant data over the four-year period comparing 14-17-year-old clients with 18-24-year-old clients resulted in employment outcomes, such as wages earned and hours worked, to be higher for the 18-24-year-old population in both states. One would expect to see high outcomes for students who began receiving coordinated transition services early (say at the age of 14) helping them to be better prepared for employment. However, these findings cause researchers to investigate why that is not the case. While looking at employment data from the Oklahoma Department of Rehabilitation Services (DRS) (R. V. Stavern, personal communication, November 18, 2016) from successful closure information from 2012-2017 (Table 1), there is a positive difference in outcome data in terms of wages

earned based on age at time of application (i.e., the older the youth was at time of application for VR services, the more money the individual would earn in employment).

Table 1

Oklahoma Overall Wage Data by Year

Age Groups	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Average
Hourly Wages							
14 – 17 yrs.	$ 9.59	$ 9.60	$ 9.63	$10.11	$ 9.87	$ 9.52	**$9.75**
18 – 24 yrs.	$10.95	$10.62	$11.12	$10.92	$11.35	$12.21	**$10.99**
Difference	**$ 1.36**	**$ 1.02**	**$ 1.49**	**$ 0.81**	**$ 1.48**	**$ 2.69**	**$1.24**
Work Hours							
14 – 17 yrs.	33	33.1	33.2	33.3	33.2	34.5	**33.32**
18 – 24 yrs.	33.9	34.0	33.9	33.8	33.6	34.3	**33.8**
Difference	**0.9**	**0.9**	**0.7**	**0.5**	**0.1**	**-0.2**	**0.6**

Note. Successful closure wage and hour information from Oklahoma's VR agency by year and age group (R. V. Stavern, personal communication, November 18, 2016).

Students who began receiving VR services between the ages of 14 and 17 earn on average $9.75 per hour compared to youth who accessed VR services between the ages of 18 and 24 ($10.99), a difference of $1.24 per hour. The data indicates the later students apply to VR, the higher their wages are upon employment. However, there was no significant difference in average number of hours worked between age groups (i.e., 0.6 hours per week difference with the younger group working more). Age at application for VR services does not appear to affect hours worked once employed; however, wages earned are affected by age at application.

Although there is not a significant difference in the number of hours worked, earning $1.24 more per hour could make a difference in the independence of SWDs and their ability to pay for their own bills. Between 2014 and 2017, 1,373 SWDs ages 14-17 were served by Oklahoma VR. Wages earned ranged from zero to $46.00 per hour, and hours worked was between zero and 70 hours per week. In comparison, students between the ages of 18 and 24 who were served in that same timeframe earned between $2.15 and $60.00 per hour and worked between 6 and 84 hours per week. These differences included individuals who earned less than minimum wage, worked zero hours, and/or were classified as unpaid family workers. When non-competitive, integrated employment closures were removed, both age groups demonstrated an increase in wages earned and hours worked within the competitive, integrated employment definition, and the older group continued to earn more than the younger group. It is unknown why or how applying for and accessing VR services at an older age impacted wages earned and hours worked. Possible reasons to consider include older students might be more mature, have had more time either in school or out to focus on social and employability skills, their disabilities may be less severe, or they may have required fewer services to achieve the competitive, integrated employment outcome. This is consistent with findings from the Wehman et al. (2015) analysis of the NLTS-2 data demonstrating age was not found to be a predictor of post-school employment outcomes.

Given the requirement of VR agencies to help clients achieve competitive, integrated employment, the data were narrowed down to include only those competitive, integrated closures earning minimum wage or higher, which is reflected in Table 2.

When narrowing down the data to only include those competitive, integrated employment closures earning minimum wage or higher (since Oklahoma has not counted homemaker or

unpaid family workers in their successful closure information), the data reflect the lack of a significant difference in number of clients or in outcome information. Similar to what was found in Table 1, the 18-24 age group came out higher in all areas, except in Table 2, both groups had $7.25 per hour as the lowest wage earned. These findings are consistent and continue to challenge beliefs about the effectiveness of services provided to 14-17-year-olds.

Table 2

Oklahoma Competitive Integrated Employment

2014-2017	1,370 total clients ages 14-17	1,434 total clients ages 18-24	Difference
Average wage/hour	$ 9.86	**$11.15**	-$ 1.29
Average hours worked/week	33.3	**33.81**	-0.51
Highest wage/hour	$46.00	**$60.00**	-$14.00
Lowest wage/hour	$ 7.25	$ 7.25	$ 0.00
Highest number of hours worked/week	70	**84**	-14.00
Lowest number of hours worked/week	4	**6**	- 2.00

Note. Earnings and hours worked for competitive integrated employment by Oklahoma clients between 2014 and 2017 by age group (R. V. Stavern, personal communication, November 18, 2016).

Similar data from California, another high engagement transition state (L. Lewis, personal communication, November 19, 2016), reflects comparable findings for the 18-24 age group: (a) earning a higher average wage (except for the 2013-2014 production year), (b) working on average more hours per week, and (c) the highest number of hours worked is higher

(except for the 2013-2014 year). However, the highest wage earned varies by year between age groups. Similar closures in California for CIE only do not count anything below minimum wage. California's outcomes are consistent with Oklahoma's in that clients in the 18-24 age group (a) earned higher average wage per hour, (b) worked on average more hours per week, (c) earned the highest wages (except for the 2015-2016 year), and (d) were consistent in working the highest number of hours per week. Table 3 further demonstrates how California 18-24-year-olds earned an average of $0.92 more per hour, worked an average of 0.64 more hours per week, reached a higher wage of about $3.28 more per hour, and reached up to 21 more hours worked per week.

Table 3

California Competitive Employment Average Difference

2013-2016	average over 3 years	average over 3 years	difference between age groups
Average wage/hour	$10.29	**$10.75**	-$0.92
Average hours worked/week	$28.20	**$28.72**	- 0.64
Highest wage/hour	$56.72	**$62.39**	-$3.28
Lowest wage/hour	$ 7.25	**$ 7.29**	-$0.12
Highest number of hours worked/week	$57.00	**$79.33**	-21.00
Lowest number of hours worked/week	$ 1.67	$ 1.33	- 0.33
	2130 clients ages 14-17	3101 clients ages 18-24	-971

Note. Average differences in earnings and hours worked for competitive integrated employment by California clients between 2013 and 2016 by age group (L. Lewis, personal communication, November 19, 2016).

The findings from the data provided by Oklahoma and California should be alarming to researchers and practitioners and encourage them to question why the 18-24-year-old group consistently demonstrated higher outcomes in terms of wages earned and hours worked. The whole premise of secondary transition planning, coordination of services between schools and agencies, and helping students achieve their vocational goals is to improve the post-school outcomes of SWDs. One would think the earlier services are provided and teams come together to coordinate those services for SWDs, the more experiences students have, the better post-school outcomes the students would have. The current data do not support that belief. There are many factors that can affect the outcomes of SWDs, and more information could be gathered to further examine the data, such as services provided, primary disabilities, vocational goals, jobs acquired, factors affecting employment (e.g., lack of transportation, Social Security benefits), severity of disability, parental preferences, job market, and order of selection status. Schools and VR agencies would be well suited to investigate the additional factors. The current study examined eight years of VR data from Oklahoma to explore outcomes of transition clients based on age at application for VR services and priority group category of eligibility for and receipt of VR services in relation to participation in a variety of work experiences.

Overall, employment rates for SWDs do not match those of their peers without disabilities. When provided VR services, SWDs are achieving better outcomes (i.e., higher wages and more hours worked) when accessing VR services at a later age.

Coordination of transition services between schools and VR appears not to impact the 14-17-year-old group as would be expected and as indicated in federal law with requirements starting at age 16. To impact change for that age group, teachers must be more intentional about providing SWDs transition education experiences to achieve postsecondary goals in areas such as further education/training, employment, and independent living. Estrada-Hernandez et al. (2008) recommended employment expectations of SWDs be explored earlier in the transition process to help them have a better match between their interests and actual jobs required, because waiting until their fifth year of high school (often age 18 or older) was too late and often resulted in low-paying jobs or less satisfaction with their jobs. They also discussed the importance of the phases of career development and maturity and experiences SWDs have while in school that can help encourage community integration and improved employment opportunities. Similarly, Carter, Trainor, Ditchman, Swedeen, and Owens (2009a) studied SWDs participating in a high school intervention program (mean age of 18.4) intended to increase their participation in summer employment. The intervention SWDs were compared against other SWDs who had been provided typical transition program services in their schools. Of the intervention strategies, there were broad ones, such as community conversations and resource mapping, and then specific strategies designed to help facilitate engagement in summer work. These included summer-focused planning, community connectors, and employer liaisons. Carter et al. (2009a) examined the participation in paid or unpaid summer work experiences after the intervention and found SWDs in the intervention group participated in some form of work at a rate of 65.8%, while those in the control group only reached a work rate of 18.5%–indicating a huge difference. The authors asserted SWDs who had the targeted intervention with intentional planning had better outcomes, and recommended SWDs have a variety of job experiences

throughout their high school transition years matching their interests while also helping them build and increase skills.

This finding aligns nicely with those of Estrada-Hernandez et al. (2008) and the recommendations of increasing the focus on employment exploration and experiences earlier in the high school years. These experiences expand the knowledge for students regarding career fields available and, in turn, help them decide which fields they like or dislike. For some students, such work experiences provide clarification regarding what they thought they were interested in, because in reality they actually do not like their chosen field once they get hands-on practice in that area. Oftentimes, waiting until the senior year or after is too late, and SWDs may either be unemployed, live off Social Security Administration benefits, or be underemployed in jobs not matching their interests or strengths nor providing enough pay to live independently.

Smith and Lugas (2010), in their comparison of employment outcomes for youth with autism and youth with all other disabilities, stressed the importance of expanding the definition of employment success for individuals beyond VR outcome. A VR outcome of competitive, integrated employment is successful after 90 days of employment ending in successful case closure. What the VR case closure does not account for is match between strengths and job obtained, sufficiency of wages earned, hours worked, benefits received from employers, or job satisfaction. Therefore, for future studies, the authors encourage the analysis of multiple outcomes, such as wages earned and hours worked, and, as previously stated, additional outcomes to examine include independent living, reduction of reliance on government benefits, and community engagement. Merely obtaining a job does not sufficiently demonstrate success. Livable wage jobs with benefits for all youth with disabilities are needed to achieve reasonable

quality of life (Blackorby & Wagner, 1996). Students with disabilities deserve to have practitioners and family members striving to help them achieve more than just a reasonable quality of life. As reflected in the VR data shared by Oklahoma and California, and consistent with Lindstrom et al. (2007), school staff must work collaboratively with families, youth, and agencies to ensure coordinated services during high school to improve post-school success. Utilizing effective practices, such as those included in the predictors of post-school success (specifically work experiences during high school) (Test et al., 2009), will assist schools and agencies in better preparing SWDs for successful employment after high school. Paying lip service on an individualized education program by including transition goals and activities that are either no different than the daily academic work students are doing in school or do not result in implementation of coordinated services, rather than implementing a transition-focused education, will continue to produce the same results for SWDs, including those in the 14 to 17-year-old age group—lower wages, fewer hours worked, and jobs in unskilled positions (Kohler & Field, 2003) barely allowing them to contribute to household expenses much less move out on their own.

As the data in the tables indicated, outcomes resulted in findings inconsistent with research around secondary transition planning. Dinger (1961) said it best when he acknowledged the need for special education teachers to fully understand the diverse requirements made of young adults with disabilities as they enter the workforce, become homemakers, and develop into responsible citizens. This clearly takes the vision beyond a mere high school diploma as the sign of success. Gerber et al. (1992) suggested success be measured by including maintaining jobs over time, career advancement, and serving in leadership roles (all great indicators to be examined in future research). In fact, as beneficial as paid work experiences are for SWDs, they,

in and of themselves, are not sufficient for students to develop career skills and maturity as they should be enhanced by other learning and structured transition activities (Creed & Patton, 2003). Estrada-Hernandez et al. (2008) asserted, "…the identification of community resources, the provision of traineeships and hands-on job experiences, access to postsecondary education, development of standardized transition programs, and the generation of theoretically sound research…" facilitate SWDs in obtaining "…better employment opportunities and community integration" (p. 22). Collaboration between schools, VR, and other agencies is essential for helping SWDs to achieve that level of success through cross training, sharing of information, and for coordination of transition service delivery through in-school and community-based experiences to support youth with disabilities in achieving improved post-school outcomes (Wehman et al., 2015). With the high expectation that youth with disabilities will achieve increased rates of competitive, integrated employment, comes the reality that it will take innovation and creativity in partnering (Carter et al., 2009c) to create rich transition, and specifically employment, experiences (Newman, Wagner, Cameto, & Knokey, 2009).

Chapter 3

Methodology

How does participation in work experiences while in high school impact the post-school employment outcomes for youth with disabilities? Specifically, data from the Oklahoma Department of Rehabilitation Services' vocational rehabilitation (VR) program across an eight-year timespan was examined. Oklahoma's VR program has had, for many years, high outreach to and engagement of transition aged youth—to the effect that consistently, about one-third of their total caseload was comprised of transition aged youth. Cases were isolated to include only those considered transition (i.e., high school students with disabilities [SWD]) at the time of application for VR services and their outcomes with respect to competitive, integrated employment (CIE). Competitive integrated employment is defined as full- or part-time work with compensation at or above that specified by the Fair Labor Standards Act of 1938 or minimum wages set by state or local laws, providing benefits when eligible, in a setting in which employees interact with other people without disabilities, and that offers opportunities for advancement (Workforce Innovation and Opportunity Act [WIOA], 2014). This definition was adopted throughout this paper.

The purpose of this study was to examine whether the predictor of engaging in a work experience during high school years (independent variable) positively impacted CIE after high school. Initially, work experiences in general were examined and then narrowed further to determine what effect, if any, each particular work experience had on achieving successful CIE closures (dependent variable). Work experiences included four specific programs—two of which are unpaid, and two of which are paid. Unpaid work experiences included short- and long-term experiences during the high school years, including summer, for employability skills learned and

practiced within a school or community context, with no wages paid to the individual. Paid work experiences included short- and long-term experiences during the high school years, including summer, for employability skills learned and directly applied on a job within schools or community businesses, paid minimum wage or higher for hours worked. In addition, given the emphasis in federal law regarding beginning transition services at the age of 16 in the Individuals with Disabilities Education Act (IDEA, 2004) and potentially ages 14-16 in WIOA (WIOA, 2014), outcome data was examined in relation to age at application for and receipt of VR services to determine if earlier access impacts employment outcomes. Two research questions were addressed in the current study.

1. Does having a VR-related work experience predict successful VR case closure (i.e., achievement of CIE) among transition clients, after controlling for priority group category, age at time of application for VR services, gender identification, and racial identification?
2. Among those individuals receiving work experiences through their VR program, what types of work experiences (i.e., participation in specific programs) are most predictive of successful VR case closure, controlling for age at time of application for VR services, disability priority group category, gender identification, and racial identification?

Research Design

This nonexperimental research study utilized logistic regression to examine a large extant eight-year dataset from one state VR agency. A study such as this is supported by the research of Prince, Hodge, Bridges, and Katsiyannis (2018) and their recommendation that, in order to truly improve postsecondary transition planning, agencies and organizations "…must examine

accessible data…to improve targeted and high-quality transition services that lead to improved outcomes for students with disabilities" (p. 85). Using recommendations from the Clearinghouse for Labor Evaluation and Research (CLER) (2014), this study was aligned as closely as possible to their guidelines for quantitative studies.

Sample and sample size. Participants included all transition participants within Oklahoma's VR agency extant dataset over an eight-year period. These transition participants must have had a documented disability and been actively receiving services from the VR agency during the eight-year timespan. For the Oklahoma VR agency, a transition participant may be designated under the following conditions: (a) under the age of 22 at the time of application for VR services, (b) on an active individualized education program or Section 504 accommodation plan, or otherwise have a documented disability recognized and accepted by the VR agency, (c) designated participation in special VR transition programs, such as Tech-Now, and (d) authorizations and payment on authorizations for transition services, such as school work study (SWS), work adjustment training (WAT), iJobs summer employment program, or Project SEARCH (high school programs only). Two additional predictors—age at time of application for VR services and priority group category of eligibility (i.e., severity of disability as defined by VR)—were examined to determine predictive impact on CIE. Each of these criteria are fields or other designations entered into the state VR agency case management system that allowed for examination of the data while meeting model criteria.

Participants were excluded if they did not meet the above criteria and were (a) age 22 or older as they would not be signified as a transition client for the VR agency due to their age, and (b) Project SEARCH participants who were considered adults (i.e., high school completers engaged in Project SEARCH as an adult through a Career and Technology Education Center), as

the VR agency implements programs for young adults out of high school in addition to their high school programs.

The extant dataset initially included approximately 13,000 transition clients (some of which were age 22 or older at application, may have had more than one case open with the VR agency during the eight-year period), which were not included in the analyses. Transition aged clients who had more than one open case with the VR agency during this eight-year timespan were removed completely to avoid influencing the data as the targeted age at application included those age 21 and under hoping to capture high school-aged students. Some clients with additional cases may have had cases opened/closed after high school and would affect outcomes by age at application; in addition, by removing those cases, only those cases having specific work experiences were isolated. Additional cases were removed due to lack of closure information, death, participants being under age 15 at time of application, participation in unidentified work experiences, low enrollment in a work experience, or lack of information necessary to identify the work experience in which they engaged. After reviewing all cases, the final study sample consisted of 8,966 transition age clients who met all study criteria.

Initially, the sample was restricted to those transition age clients who had opened and closed cases within the eight-year time span. The sample was further reduced by the conditions above, resulting in the 8,966 cases considered for the analyses.

Different subsets were used to answer the two research questions based on the available data. Research question 1 examined the entire finalized sample (n=8,966) to determine if having work experiences, age at application for VR services, or priority group category is predictive of achieving a CIE outcome (i.e., successful VR case closure). For research question 2, a subset of this total sample (n=3,906) was examined using the criteria of only those clients who had some

type of work experience throughout their VR case to examine potential differences in impact of work experiences on outcomes, while holding constant for age at application and priority group category. Demographic information about sample participants is presented by research question.

Research question 1. The data for question one consisted of the entire sample after considering criteria required for the study. This resulted in 8,966 transition aged clients who received VR services during the eight-year time span and were between the ages of 15-21 at the time of application for VR services (refer to Table 5). Of the sample, 3,604 (40.2%) were female and 5,362 (59.8%) were male. The average age at the time of application for VR services was 17.49, with age 17 constituting the largest pool of applicants for the sample (26.5%) with a minimum age of 15 and maximum age of 21. Those in priority group 2 made up the largest group with 4,229 (47.2%), with priority group 1 being the next largest with 3,929 (43.8%). The majority of the sample identified as white (6,408 or 71.5%). In addition, 3,906 (43.6%) engaged in a work experience, and 3,575 (39.9%) achieved a successful VR case closure.

The dependent variable for this analysis was successful VR case closure (i.e., achieving a CIE outcome). The predictors were participation in a work experience, age at time of application for VR services, and priority group category. Examples of work experiences included SWS, iJobs (a summer work experience), WAT, and Project SEARCH. Logistic regression was conducted in SPSS software to analyze the data for this research question.

Research question 2. Given this sample was a subset of the larger sample, only cases of transition age clients who participated in at least one work experience were included. The sub-sample (reflected in Table 7) included 3,906 transition aged clients who had participated in a work experience, while meeting the requirements mentioned in question 1. Of this sub-sample, SWS was the work experience engaged in the most at 3,204 (35.7%), followed by WAT at 757

(8.4%). More participants in priority group 2 engaged in any work experiences than the other two groups at 49.1% (1,916). Additionally, more students who identified as white engaged in work experiences with 2,749 (70.4%) having an experience. Of those participants who engaged in a work experience, the majority of those cases did not result in a successful VR case closure with 2,344 (60%) not closing successfully, compared to the 1,562 (40%) who did close successfully.

The dependent variable was also successful VR case closure; however, the predictors included each of the four types of work experiences—SWS, iJobs, WAT, and Project SEARCH. Logistic regression was also utilized to analyze the data for this research question.

Measures. The VR definition of the variables and terms were followed. Predictor variables were selected based on research by Test et al. (2009) and their identification of evidence-based practices and predictors in transition—specifically the predictor of having work experiences during high school years. Similarly, although Leahy et al. (2014) identified evidence-based practices in VR, findings reflect organizational, management, and philosophical approaches to serving their clients but did not include specific service or activity predictors, such as work experience. As a former employee of the Oklahoma VR agency with knowledge of services, policies, and programs, I was able to utilize my researcher experience and expertise in special education secondary transition and VR transition. There is some overlap with the evidence-based practices identified by Test et al. (2009), which was included in this analysis. Age at application for and receipt of VR services has not been demonstrated to have an impact on the likelihood of a transition participant achieving CIE (R. V. Stavern, personal communication, November 18, 2016; Wehman, Sima, Ketchum, West, Chan, & Leucking, 2015). Therefore, examining outcomes based on age at the time of application for VR services

was examined. Predictor variables included (a) provision of a work experience (including paid and unpaid), (b) specific work experience programs (i.e., Project SEARCH, SWS, iJobs, and WAT), (d) no work experience, (e) age at application for VR services, and (f) priority group category. The dependent variable was successful VR case closure (i.e., achievement of CIE after at least 90 days on the job). Each of the work experiences has specific eligibility criteria for participation and guidelines for implementation, as indicated in Table 4 and described here.

Table 4

Work Experience Program Elements

Program	Age Range	Application	Interview	Can Repeat	Paid	Duration	Timeframe
School Work Study	16-22	No	No	Yes	Yes	24 months	All year
Work Adjustment Training	16-22	No	No	Yes	No	18 months	All year
Project SEARCH	18-24	Yes	Yes	No	No	9 months	School year
iJobs	16-22	Yes	Yes	Yes	Yes	8 weeks	Summer

Note. Description of program elements for various work experiences offered by the VR agency (Oklahoma Department of Rehabilitation Services, personal communication, November 18, 2016).

Unpaid work experiences. Two specific unpaid work experiences were included—WAT and Project SEARCH. WAT is a VR funded program that can take place within a school or through a community rehabilitation provider. Transition participants with more significant disabilities (i.e., generally priority groups 1 and possibly 2) may be identified as needing such a service and may receive the service for up to 18 months (not necessarily consecutive), unless additional time is authorized by the VR counselor. Participants spend up to three hours per day (or less as appropriate) during the school year in the program. WAT includes a heavy amount of instruction and guidance around appropriate workplace behavior, work stamina, soft skills, and actual hard skills or work tasks in a structured/supervised environment or in supervised community settings in small groups. A typical day may involve participants learning and practicing within their school or community rehabilitation provider facility or spending time transferring and applying those skills in community businesses or through volunteer opportunities. WAT participants are always accompanied by an adult who provides supervision but also assistance as they apply the skills while helping the participants meet their individual goals. Many participants may complete WAT and then engage in other work experiences, such as SWS, iJobs, or Project SEARCH, depending on their skill level, vocational goals, and availability of the programs in their local areas.

Project SEARCH is an international program that began at Cincinnati Children's Hospital Medical Center in partnership with a local career and technology education center ((Project SEARCH, 2018). Project SEARCH is a total immersion in the workplace unpaid internship program for high school students with more significant disabilities (i.e., generally priority groups 1 and 2) who have accrued all of their credits for high school graduation and agree to defer graduation for one year to participate in the program as part of secondary transition services.

Project SEARCH aims to prepare students with significant disabilities for the workforce by filling entry level and high turnover positions within businesses. Students apply for, are interviewed, and are selected to participate in the nine-month program, which is a partnership between a school, host business, VR, a community rehabilitation provider, and the developmental disability services agency. The host business provides a dedicated workspace for the group for daily instruction to take place, led by an instructor and assisted by skills trainers (similar to job coaches). The host business also provides entry into departments to allow participants to complete three ten-week internships across the business. Some hosts include hospitals, hotels, and aviation companies. The daily schedule begins with employability skills instruction, followed by at least four hours on the individual internship rotations, and wraps up with a short debrief, journaling, or additional instruction at the end of the day. Students are taught routine, repetitive, yet complex, tasks on each of their internships. These high school students do not attend their home school on a daily basis as the host business is their home base for their final school year. Upon completion of the internships, participants work with the instructor, skills trainers, VR counselors, and community rehabilitation providers to obtain CIE within their communities.

Paid work experiences. Paid experiences included in this study were school work study (SWS) and iJobs summer employment program.

SWS is a service provided through VR but implemented in partnership with the local school districts and community businesses. Students of all disability and ability types may be approved for this service based on the recommendation of the VR counselor, referral from the school/special education teacher, and request from the individual and their families. SWS is one of the higher independent tiers of VR service as it is expected the student will be able to work

independently when they enter this service. Students work independently either in their school district or in community businesses for up to 20 hours per week during the school year and potentially in the summer, if approved. Students are considered employees of the school district, which helps open the door to many of the community businesses as the district maintains liability. Students are paid minimum wage for the time worked. Through SWS, students are expected to learn and improve on specific jobs while also improving soft skills, such as time management, teamwork, taking initiative, follow through, and more. Many students participate in SWS their latter two years of high school and are then able to transition directly into employment, supported employment, or further education/training prior to employment.

The summer program, iJobs, is an eight-week work readiness and paid work experience. Students of all disability and ability types can apply to participate in iJobs while they are still returning high school students. For students with more significant disabilities, supports may be provided through the state developmental disability agency, if the student is eligible for the state funded community integrated employment service. This summer program is often the first exposure to independent community work for many students and provides a good foundation for future work experiences. Similar to Project SEARCH, students also engage in the application, interview, and selection process. Once selected, students agree to spend one week at the beginning of the summer engaged in all-day employability skills training at a local school or community rehabilitation provider. During this week of learning, VR counselors, their partners, and community representatives work with the students to teach interview skills, resume development, and other work-related skills while also building independent living skills, such as setting a menu and budget, grocery shopping, meal preparation, and clean up. For the next seven weeks, students work part-time in the community on jobs matching their interests (e.g., florists,

auto mechanics, movie theater, and government offices) and are paid minimum wage for time worked. Through a partnership with a temporary staffing agency, the Galt Foundation, students become employees of the staffing agency, the agency holds liability, and the work is performed on individual jobs within the community. A skills trainer or other team member will visit each worksite weekly to take pictures/videos, talk to the students, observe students on the job, talk with employers to ensure all needs are met, and to collect weekly time sheets and evaluations of job performance.

Once per week, the group gathers together at the school or community rehabilitation provider facility to engage in additional learning and debriefing from experiences on the job throughout the week. Many of the experiences observed by the skills trainers are tied into the weekly teaching topics, such as confidentiality, anger management, and harassment. These weekly meetings also include students engaging in comparison shopping for interview clothing at the mall and a thrift store and volunteering in the community at the local food bank or other chosen location. Many students who complete the iJobs summer program are often able to move into SWS during the school year as the summer experience served as a great foundation for building initial work skills.

Transition participants could potentially engage in none, one, several, or all of these VR services throughout their case. Identification of services needed is done jointly through the VR counselor, student, family, and school. Students' interests and skills evolve over time, and participating in such work experiences allows them to explore areas of interest or new areas they may never have been exposed to or know about. When analyzing the data, participation in no work experiences, specific work experiences, and multiple experiences were identified.

Data collection procedures. VR counselors and technicians are responsible for entering applicant information into their data management system. Unfortunately, individual information is not entered into the system for those who are merely referred to the agency but do not end up making application to the agency. Therefore, the case-level extant data examined for this study included only those individuals who actually submitted an application to the VR agency, received services under an individualized plan for employment toward achieving a CIE outcome, and had their case closed within the eight-year timespan.

Study details were submitted to the University of Oklahoma Institutional Review Board (IRB) to determine if there were any risks or consents required; however, upon review of the study components, the IRB investigators determined this study did not meet their criteria for human subject's research and approval was not necessary for the project. This decision was based on the anonymity of the incoming extant data and lack of intervention or interaction directly with living individuals or usage of secondary data that could be linked to identifiable living individuals. After signing a formal agreement with the VR agency, the VR agency data manager provided the data in electronic form. The data was based on a purposive sample of those transition clients who applied for VR services beginning with October 1, 2010, and whose cases were closed on or before September 30, 2018. These dates demonstrate the beginning and end of the federal fiscal reporting years for the VR agency. The VR agency provided completely de-identified data in plain text format in Excel, only using unique identifiers for the purpose of the study. No names, schools, social security numbers, or state case/participant identification numbers were shared. The data was stored on a computer secured with a password that was only accessed by the researcher.

Data Analysis and Justification

Once the data were received from the VR agency in the Excel file, the data were reviewed for missing elements, ensured consistent coding of the data, and identified any clients who needed to be excluded from the data (e.g., if they erroneously got coded as a transition client due to inaccurate data, no closure information included, or had multiple cases). This process helped narrow down the sample for research question 1 by including only those transition participants meeting all previously stated criteria. The next step was to examine the data further to identify participants within each work experience to address research question 2. Then, coding took place for the independent variables of participation in a work experience, age at time of application for VR services, priority group category, as well as covariates of gender and racial identification, for transfer to SPSS. Logistic regression was used to determine the impact of the nominal independent variables (i.e., predictors of work experiences, specific work experience programs, age at application for VR services, and priority group category) on the dependent variable (CIE) (Laerd Statistics, 2015). Using a logistic regression model helped determine if the predictors (based on what the literature says about work experiences) had an impact on the outcome of CIE through distinct response values for each predictor.

The size of the sample (8,966 for research question 1) and subset of the sample for research question 2 (3,906 were adequate to support using the logistic regression model with multiple predictors as a sample of 100 or more is indicated by Long (1997) to be necessary for testing significance of simple models using logistic regression. Regression coefficients were used, while considering the standard error of the coefficient estimates, to determine the direction of the relationship between the predictors and the outcome response. Logistic regression analysis

was used to identify which predictors were likely to result in CIE (i.e., successful VR case closure) for SWDs (Laerd Statistics, 2015).

Once data were analyzed for the predictors, results of the analyses were interpreted to identify the predictors that influence successful outcomes for VR transition clients of the state through the examination of Beta coefficients for likelihood of effect of each categorical predictor on the dichotomous dependent variable—employment outcome. VR case closure is dichotomous in that there are only two outcomes—rehabilitated (achieved CIE) and non-rehabilitated (did not achieve CIE). Through this study, the VR agency was provided recommendations on their use of evidence-based practices and concentration on the predictors so they can allocate resources (e.g., professional development, staffing, program development or expansion, and funds) to those areas found to positively affect successful closures, scale up those practices in which they are implementing that are found to be effective, and to reevaluate those areas in which are not having an impact on employment outcomes of transition clients. This study is one that can be replicated by other state VR agencies across the same predictor variables using a similar analysis.

Chapter 4

Results

Descriptive Statistics

The full sample consisted of 8,966 transition clients who received services from the vocational rehabilitation (VR) agency in the eight-year timespan. A sub-sample of 3,906 cases was drawn from the 8,966 cases to perform analyses designed to answer the second research question. This sub-sample was comprised of individuals identified as having had some type of work experience while their VR case was open. Demographic information on the larger sample group and subgroup are presented below.

Sample for research question 1. The data analyzed for question 1 consisted of the entire available sample after considering criteria required for the study. The sample size was 8,966 transition aged clients who had received VR services during the eight-year time span and were between the ages of 15-21 at the time of application for VR services (refer to Table 5 and Table 6). Of the sample, 3,604 (40.2%) were female and 5,362 (59.8%) were male. The average age at the time of application for VR services was 17.49 (SD=1.456), with age 17 constituting the largest pool of applicants in the sample (26.5%) with a minimum age of 15 and maximum age of 21. Those in priority group 2 (i.e., medium severity) made up the largest group at 47.2% (4,229), with priority group 1 (i.e., highest severity) being the next largest at 43.8% (3,929). The majority of the sample identified as White (6,408 or 71.5%). In addition, 3,906 (43.6%) engaged in a work experience, and in total, 3,575 (39.9%) achieved a successful VR case closure. There were no outliers nor skewness for age at application.

Table 5

Demographic Characteristics of Sample

Characteristic	n	%
Gender Identification		
Female	3604	40.2
Male	5362	59.8
Age (in years) at time of VR Application		
15	470	5.24
16	1993	22.23
17	2376	26.50
18	2287	25.51
19	908	10.13
20	508	5.67
21	424	4.73
Disability Priority Group		
Priority Group 1	3929	43.8
Priority Group 2	4229	47.2
Priority Group 3	808	9.0
Racial Identification		
Identified as White	6408	71.5
Identified as Non-White	2558	28.5

Note. Total sample N=8966. Participant average age at application was 17.49 years old (SD=1.456).

Table 6

Program Demographic Characteristics of Sample

Characteristic	n	%
Work Experience		
Engaged in Work Experience	3906	43.6
School Work Study	3204	35.7
Work Adjustment Training	757	8.4
iJobs	68	0.8
Project SEARCH	231	2.6
Did Not Engage in Work Experience	5060	56.4
Case Closure		
Successful	3575	39.9
Not Successful	5391	60.1

Note. Total sample N=8966.

Sub-sample for research question 2. The sub-sample for this research question included only transition clients who participated in at least one work experience during their VR case. The sub-sample (reflected in Table 7) included 3,906 transition aged clients who had participated in a work experience, while meeting the requirements mentioned in question 1. Although there were 3,906 unique clients who engaged in at least one work experience, these clients could have engaged in more than one of the available work experiences, which is reflected in Table 7. This explains why, when all participants are summed between all work experiences, the total (i.e., 4,206) is more than 3,906—individual students who had a work experience. Of this sub-sample,

school work study (SWS) was the work experience engaged in the most at 3,204 (35.7%), followed by work adjustment training (WAT) at 757 (8.4%).

Table 7

Demographic Characteristics of Subset of Subgroup

Characteristic	SWS		iJobs		WAT		Project SEARCH	
	N	%	N	%	N	%	N	%
Gender Identification								
Female	1273	39.7	23	33.8	285	37.6	96	41.6
Male	1931	60.3	45	66.2	472	62.4	135	58.4
Age (in years) at time of VR Application								
15	196	6.1	3	4.4	40	5.3	10	4.3
16	863	26.9	22	32.4	187	24.7	49	21.2
17	876	27.3	15	22.1	214	28.3	66	28.6
18	752	23.5	17	25.0	196	25.9	58	25.1
19	282	8.8	6	8.8	72	9.5	27	11.7
20	138	4.3	5	7.4	23	3.0	14	6.1
21	97	3.0	0	0.0	25	3.3	7	3.0

Table 7 (continued)

Demographic Characteristics of Subset of Subgroup

Characteristic	SWS		iJobs		WAT		Project SEARCH	
	N	%	N	%	N	%	N	%
Disability Priority Category								
Priority Group 1	1313	41.0	33	48.5	400	52.8	122	52.8
Priority Group 2	1627	50.8	31	45.6	306	40.4	91	39.4
Priority Group 3	264	8.2	4	5.9	51	6.7	18	7.8
Racial Identification								
Identified as White	2247	70.1	50	73.5	531	70.1	166	71.9
Identified as Non-White	57	29.9	18	26.5	226	29.9	65	28.1

Note. Total sample N=8966. Sample for Research question 2 included the 3,906 individuals who engaged in a work experience.

Overview of Main Analyses

The research questions for this study included:

1. Does having a VR-related work experience predict successful VR case closure (i.e., achievement of competitive, integrated employment [CIE]) among transition clients, after controlling for priority group category, age at time of application for VR services, gender identification, and racial identification?
2. Among those individuals receiving work experiences through their VR program, what types of work experiences (i.e., participation in specific programs) are most predictive of successful VR case closure, controlling for age at time of application for VR services, disability priority group category, gender identification, and racial identification?

To address these two questions, two binary logistic regression analyses were conducted. For the first analysis, a binary indicator of successful closure (coded 0=no, 1=yes) was regressed onto a binary predictor indicating whether a client had at least one work experience (coded 0=no, 1=yes) while in their VR program. The analysis also included several additional predictors as control variables, such as:

- severity of a client's disability (i.e., priority group category);
- age at application for VR services;
- gender identification (coded 0=male, 1=female); and
- racial identification (binary indicator of whether a client was identified as White; coded 0=non-White, 1=White).

For severity of a client's disability, Oklahoma's VR agency's standard coding for priority group categories includes priority group 1 (most significant), priority group 2 (significant), and priority group 3 (non-significant). This variable was recoded into two dummy variables, with the

reference category being the ‘low-severity’ group. Gender and racial identification were included in the analysis to account for any potential discrimination or bias that may have affected the quantity or quality of the opportunities made available to clients.

For the second analysis, the binary indicator of successful VR case closure (i.e., achieving a CIE outcome) (coded 0=no, 1=yes) was regressed onto a set of binary predictor variables, each representing a specific work experience (i.e., SWS, iJobs—a summer work experience, work adjustment training [WAT], and Project SEARCH). These variables were dummy coded 0=no and 1=yes, indicating whether a person received a particular work experience. The same control variables described above for the first analysis were used in this second analysis.

Research Question 1

To address the first research question, predictor variables included work experiences, disability priority group (dummy coded), and age at time of application for VR services, along with the control variables of gender identification and racial identification

Overall, the model exhibited a rather modest fit to the data. The likelihood ratio chi-square test indicated the model represented a significant improvement in fit relative to an intercept-only model (i.e., a model containing no predictors), $\chi^2(6) = 154.757$, $p<.001$. Moreover, results from the Hosmer-Lemeshow chi-square test suggested the model fit the data well, $\chi^2(8) = 6.369$, $p=.606$. Even so, McFadden’s pseudo-R-square=.0128, suggested a very small improvement (1.2%) in model fit over a null model (see Pituch & Stevens, 2016). An examination of the classification results indicated that the model correctly predicted group membership (reflecting successful versus unsuccessful VR case closure) at a rate of 60.6%. Whereas the model specificity (i.e., true negatives; in this case, correctly predicting unsuccessful

VR case closures) was quite high (96.3%), its sensitivity (i.e., true positives; in this case, correctly predicting successful VR case closures) was very low (6.9%). The rate for false-positives, therefore, was around 4%, whereas the rate for false-negatives was around 93%.

Table 8

Regression Coefficients and Odds Ratios for Research Question 1

Predictor	B	S.E.	Wald Z	p-value	OR
Work experience	.040	.044	.813	.367	1.041
Age at app	.096	.015	40.362	.000	1.100
Disability priority (middle)	-.084	.078	1.179	.277	.919
Disability priority (high)	-.456	.079	33.690	.000	.634
Gender (female)	-.151	.045	11.485	.001	.860
White	.243	.049	24.878	.000	1.275
Constant	-1.980	.280	50.170	.000	.138

Note: B is expressed as the predicted change in log odds of successful case closure per unit difference on the predictor, controlling for the remaining predictors. OR=odds ratio (ratio of the odds of successful case closure for two individuals differing by one unit on the predictor, controlling for the remaining predictors).

Results (indicated in Table 8) revealed four statistically significant predictors of successful case closure: age at time of application for VR services (p<.001), the 'high' disability priority dummy variable (p<.001), gender identification (p=.001), and racial identification (p<.001). Having a work experience (p>.001) did not have a significant relationship with the outcome of achieving CIE. The 'middle' disability priority dummy variable was not significant (p=.277).

Individuals who were older at the time of application were predicted to have an increased likelihood of successful closure than individuals who were younger at the time of application. Based on the odds ratio for age (1.10), it appears the odds of successful VR case closure increased 10% for each year older a client was at the time of application for VR services. Individuals who were female had a decreased likelihood of successful VR case closure when compared to males. With an odds ratio of (.860), it appears the odds of successful VR case closure for females is .86 that for males. Another way of putting it is that the odds for females were 14% lower than that for males. Individuals who identified as White were more likely to have a successful VR case closure than those identified as non-White. Based on the odds ratio for the racial identification predictor (1.275), it appears the odds of successful VR case closure were roughly 27.5% greater for individuals identified as White as compared to those identified as non-White. As noted above, disability priority group appears to be related to the likelihood of successful case closure. Nevertheless, it is limited to the comparison between individuals in the high disability priority group and the low priority group. Specifically, individuals in the highest disability priority group were significantly less likely to experience successful case closure than those in the low priority group ($p<.001$). Based on the odds ratio (.634), we see the odds of successful case closure in the high priority group was .63 times that of the low priority group. In other words, the odds of successful closure in the highest priority group were [100% ((1-.634)-1.0)] = 37% lower than those in the low priority group.

Research Question 2

To address the second research question, indicator variables representing participation in each of several work experience programs were included as predictors of successful case closure. As described above, dummy variables representing each of four possible work experiences were

included in the model. Each was coded 0=no (did not have the experience), 1=yes (did have the experience). Racial identification, gender identification, age at time of application for VR services, and disability priority group (dummy coded as described above) were included as covariates in the model.

As with the previous analysis, the overall fit of the regression model was rather modest. Results from the likelihood ratio chi-square test revealed that the model containing the set of the complete set of predictor variables represented a significant improvement in fit relative to an intercept-only model (i.e., a model containing no predictors), $\chi^2(9) = 159.255$, $p<.001$. The Hosmer-Lemeshow test results provided further evidence that the model was a reasonable fit to the data, $\chi^2(8) = 6.978$, $p=.539$. Nevertheless, McFadden's pseudo-R-square=.0128 once again suggested the model demonstrated a small improvement in model fit relative to a null model (see Pituch & Stevens, 2016). In general, the model correctly predicted group membership (reflecting successful versus unsuccessful VR case closure) at a modest rate of 60.7%. Whereas the model specificity (in this case, correctly predicting unsuccessful VR case closures) was quite high (96%), its sensitivity (correctly predicting successful VR case closures) was very low (7.5%). The rate for false-positives, therefore, was around 4%, whereas the rate for false-negatives was around 93%.

Results for research question 2 mirrored those found in the first research question and are indicated in Table 9. The predictor variables of age at time of application for VR services ($p<.001$), gender identification ($p=.001$), and racial identification ($p<.001$) each had a significant relationship with the outcome of achieving CIE. The dummy coded 'high' disability priority variable was a significant predictor ($p<.001$), whereas the dummy coded 'medium' disability priority variable was not ($p=.286$). Each of the work experiences was examined as predictors in

this research question. Of the four work experience (binary) variables, only 'Project SEARCH' was significant (p=.027).

Table 9

Regression Coefficients and Odds Ratios for Research Question 2

Predictor	B	S.E.	Wald Z	p-value	OR
Age at app	.095	.015	39.725	.000	1.099
Disability priority (middle)	-.083	.078	1.140	.286	.921
Disability priority (high)	-.457	.079	33.737	.000	.633
SWS	.029	.046	.402	.526	1.029
WAT	-.022	.079	.079	.779	.978
iJobs	-.090	.255	.124	.725	.914
Project SEARCH	.301	.136	4.922	.027	1.352
Participant Gender	-.153	.045	11.677	.001	.858
White	.243	.049	24.809	.000	1.275
Constant	-1.966	.280	49.435	.000	.140

Note: B is expressed as the predicted change in log odds of successful case closure per unit difference on the predictor, controlling for the remaining predictors. OR=odds ratio (ratio of the odds of successful case closure for two individuals differing by one unit on the predictor, controlling for the remaining predictors).

When examining each specific work experience as a predictor variable, the Project SEARCH dummy variable demonstrated a significant relationship (*p*=.027) with the outcome of achieving CIE. Individuals who participated in Project SEARCH were more likely to experience successful closure as compared to those who did not participate in the program. Based on the

odds ratio for Project SEARCH (1.352), the odds of successful VR case closure for those participating in Project SEARCH were 35% greater than the odds for those who did not participate in the program. There were 231 Project SEARCH participants of which 106 (3% of the proportion of all successful VR case closures) achieved CIE, while 125 (2.3% of the proportion of unsuccessful VR case closures) did not achieve a successful outcome (Table 10). In other words, for those who participated in Project SEARCH, 106 of the 231 (46%) achieved CIE; however, this reflects only a small fraction of all successful VR case closures. Table 9 provides the odds ratios and regression coefficients for the predictors, while Table 10 offers information specific to the success rate of Project SEARCH participants in the sub-sample relative to all VR case closures.

Table 10

Project SEARCH Outcomes

Priority Group	Significance (p value)	Exp(B)	Portion of Total Successful VR Case Closures		Portion of Total Unsuccessful VR Case Closures	
			n	%	n	%
Project SEARCH	.027	1.352	106	3.0	125	2.3

Note. Percent is based on total successful closures (n=3,575) and total unsuccessful closures (n=5,391).

Additional results indicated more participants in priority group 2 engaged in work experiences (i.e., 1,916 or 49.1%) than the other two priority groups. Additionally, more students who identified as White engaged in work experiences with 2,749 (70.4%) having an experience. Of those participants who engaged in a work experience, the majority of those cases did not

result in a successful VR case closure with 2,344 (60%), compared to the 1,562 (40%) who did close successfully. Results from an additional simple logistic regression predicting the likelihood of a person engaging in work experiences were examined for the relationship between age at time of application for VR services and the likelihood the participant would engage in a work experience during their VR case. Results from this analysis indicated as participants increased in age, the likelihood of engaging in a work experience significantly (p=.004) decreased. With an odds ratio of .914, the odds of having a work experience for younger participants was 91% more likely than for the older participants.

Chapter 5

Discussion

This current study investigated (using a binary logistic regression) whether work experiences, age at time of application for vocational rehabilitation (VR) services, or priority group category were predictive of successful VR case closure for transition age clients for one state's VR agency transition program. The impact of work experiences in general in addition to specific work experiences offered by the VR agency were evaluated. Findings indicated the likelihood of achieving a successful VR case closure was increased for:

- individuals who were older at the time of application for VR services;
- those who identified as White;
- those who identified as male; and
- those who were in a lower priority group category (i.e., less severe disabilities).

The predictor of having engaged in a work experience while in high school was not found to have a significant impact on VR case closure outcome and is contrary to what Test et al. (2009) and Wehman et al. (2015) found in their research indicating work experience during high school to be a strong predictor of increased post-school outcomes. In addition, Project SEARCH was found to be the only work experience with a significant impact on achieving a competitive, integrated employment (CIE) outcome (i.e., successful VR case closure), which is consistent with research by Wehman et al. (2012) where Project SEARCH completers achieved CIE at a rate of 78.3%, compared to the national rehabilitation rate of approximately 55% by WIOA (2014). Project SEARCH as a predictor of CIE aligns with research by McDonnall and O'Mally (2012) in their findings that longer time spent on work experiences increased CIE. As mentioned previously, participants in Project SEARCH spend about nine months fully immersed in a

workplace completing up to three unpaid internships coupled with employability skills instruction and on-the-job support from skills trainers who fade their support as participants become more independent in their work tasks. This level of support is vastly different from the three other work experiences examined in this study, which may also contribute to the predictive nature of Project SEARCH on future employment. Through the inclusion of direct employability skills instruction, full immersion in a workplace, and direct support from skills trainers, participants in Project SEARCH receive a high level of upfront and ongoing instruction and support throughout their internships helping them to develop into qualified job candidates. Such supports were either not provided or minimally provided in the other three work experiences. Participants in Project SEARCH also develop a career portfolio and spend the entire nine months learning/refining their skills toward becoming a qualified candidate for employment and achieving their vocational goals. These findings also fit within recommendations by Creed and Patton (2003) in that mere work experiences are not solely what makes an impact—it is additional structured activities (which are included in Project SEARCH, such as budgeting, interview skills, completing job applications, problem solving on the job, and workplace safety) that increase the skill level of students with disabilities (SWD) toward building employability skills. Additionally, the latter months of the internship experience include having a team of skills trainers, VR counselors, and instructors whose job it is to work with the individual towards job development, job placement, and onsite support or building natural supports. In addition, the higher rate of CIE for males as opposed to females aligns with data reported by the Bureau of Labor Statistics (BLS) (2020) where 3,189 (22.5%) of males with disabilities 16 years of age and older were employed in contrast to 2,669 (16.5%) of females with disabilities in the same age range and research conducted by Kaya, Hanley-Maxwell, Chan, and Tansey (2018). High rates

of CIE for males at 2,194 (61.4%) was not unexpected given they comprised 5,362 (59.8%) of the total sample. This was also similar to the outcomes of those who identified as White achieving CIE at 2,659 (74.4%) while comprising 6,408 (71.5%) of the total sample. Those who identified as White along with males were not overrepresented in CIE in proportion to the sample as a whole.

Unexpected Outcomes

Looking closely at the results for research question 1, there were two predictors that had unexpected outcomes—age at time of application for VR services and having a work experience while in high school.

Age at application. Given the emphasis on secondary transition and coordinated services in the high school years (Individuals with Disabilities Education Act [IDEA], 2004; Workforce Innovation and Opportunity Act [WIOA], 2014), it was unexpected for the older transition clients to have had more success in terms of employment outcomes given the coordination and collaboration that should be, and often is, occurring between schools, VR, and other agencies/partners early in the transition process. However, the current findings were consistent with employment data shared by the Office of Disability Employment Policy (ODEP) (2014) where there was a 15% difference in employment rates of individuals with disabilities between the age groups of 16-19 and 20-24—where the older group also experienced higher rates of employment.

This gap in outcomes between age groups causes one to question why. There could be maturation and experiential factors that affect the ability of the older clients to achieve better outcomes as well as parent/family readiness for the transition client to prepare for work; however, that would have to be examined through additional investigation. Order of Selection

requirements (i.e., when the state VR agency must put all applicants into delayed status due to lack of resources and must serve those individuals with the most significant disabilities first) and its resulting waiting list may impact age at application for VR services. The waiting list is problematic in that oftentimes individuals stay in delayed status for a long time (e.g., those in priority group 3) and may not get services, may have to wait a long time for services, or may even choose not to receive services once they are released from the list. There are also misconceptions about the waiting list and misunderstanding about how the VR agency functions and "works" its waiting list and how that varies from the waiting lists of other agencies. It is misinformation such as this that may lead teachers to believe their high school students would not even get served by the VR agency due to the waiting list. The list varies in size from month-to-month; however, the VR agency works their list as quickly as possible. Unfortunately, some teachers do not understand the process and how important it is to have students apply for services and get on the list and may delay in referring or not ever refer students or have them and their families apply for VR services. In addition, teachers may have different opinions or expectations of their older students versus their younger students, and, therefore, possibly feel the older students are more ready to engage in the services VR has to offer. There are some teachers who may not know or understand their legal obligations to provide secondary transition services (as mandated in IDEA 2004) to SWDs beginning at age 16 or upon entering ninth grade, whichever occurs first, in Oklahoma. This lack of knowledge may result in younger students not having access to robust transition experiences through their special education teachers/schools. As Rusch and Wolfe (2008) asserted, findings such as this could also be affected by the lack of transition activities, instruction, and coordination by schools. Some teachers "think" they are "doing" transition by addressing the transition components of the individualized education

program; however, these teachers have no concrete examples or documentation to support what actual transition activities have taken place for some SWDs. This leads us to question how intentional and robust school transition programs are, and if they even exist (Benz et al., 2000). Another factor that may affect referral or application to the VR agency relates to waiting lists of other agencies and misperception about the VR waiting list. The Oklahoma waiting list for the Developmental Disabilities Services waiver programs for individuals with intellectual and developmental disabilities is more than eight years long, and many teachers and other stakeholders confuse the VR waiting list to be similar in nature to that of the other agency. The two agencies vary greatly in terms of their waiting lists and the process by which (and funding) they use to "move" people off their waiting lists.

Work experiences. The findings suggested work experience as a predictor variable was not significant ($p>.001$) in predicting CIE, which was very surprising given the robust research on work experiences and their impact on employment outcomes (Test, Mazzotti, Mustian, Fowler, Kortering, & Kohler, 2009). This outcome does not align whatsoever with the current research, nor does it align with the priorities set forth in WIOA 2014 which places emphasis on providing pre-employment transition services, including work-based learning experiences, to SWDs. Work experience program characteristics included in this study and barriers to work experience participation may shed light on this unexpected finding.

Work experience program characteristics. Although work experiences were not significant predictors of achieving a successful VR case closures, the finding cannot be taken at face value due to the diversity of all of the Oklahoma work experiences grouped together into one category of "work experience." The predictor variable was inclusive of four work experiences that each had their own characteristics, such as eligibility requirements or duration

of program, and varied enrollment numbers and group membership characteristics, such as students with more significant disabilities or who may not have completed the program. These differences created a very heterogeneous group which creates questions around the representativeness of the group and eroded the predictive power of "work experience". The representativeness of the data may also be affected by bias of teachers and VR counselors, which demonstrates an inequality in opportunity for some transition clients to be in the pool of candidates for work experiences. These reasons—imprecision in predictor variable and lack of homogeneity of the sample—are methodological concerns and explaining why we might not accept the outcome. These programmatic characteristics make it challenging to group all work experiences into one predictor category. Work experience as a predictor was used because the extant data did not have balanced numbers of participants in the various work experiences and did not include specific details about client completion of work experience(s). These factors contribute to the bias in sample in addition to the imprecision of the predictor variable. Due to these differences, examining characteristics of each work experience would help determine the aspects of each that increase its strength as a predictor of CIE and what areas possibly need improvement. In addition, there are other factors to consider, such as unique experiences of each participant (e.g., severity of disability, level of independence, attendance, and completion of program). Outcomes of participants within each work experience program could be compared to identify potential predictors influencing a positive employment outcome. Considering the findings of Carter et al. (2009a) regarding outcomes of SWDs who engaged in work experiences being higher than those of SWDs not engaging in work experiences, a much more fine-grained examination of each work experience, students within each work experience, expectations, and outcomes must be undertaken.

Order of Selection and Work Experience Participation

Barriers to work experience participation existed for individuals who were older at the time of application for VR services and individuals in the lowest priority category (i.e., priority group 3—non-severe). In regards to age, this would mean the younger, less experienced clients were receiving the work experience as a service. Given the State VR agency has been under order of selection on and off over the years and continues to be operating under an order of selection, those in priority group 3 would be the ones on the waiting list longest and served last by the agency. This was evident when looking at the total number of clients in priority group 3 over the eight years was 808 (i.e., 9%), compared to priority group 1 and priority group 2 each having close to or over 4,000 participants. Considering order of selection forces a state VR agency to serve those individuals with the most significant disabilities first (i.e., priority group 1), fewer individuals with less significant disabilities accessed and received VR services over the eight years. Other factors could have affected this low enrollment of SWDs found eligible in priority group 3, such as lack of knowledge of VR services, lack of need for VR services, accessing services elsewhere, or lack of interest in VR services. WIOA set out to assist individuals with disabilities to prepare for, enter, maintain, and advance in the workforce system. If an individual does not need services from VR and can access what they need from another system/resource, they may very well do that, which might impact application numbers for the VR agency. Additionally, with the inclusion of pre-employment transition services in WIOA, some students in priority group 3 who do not need long-term, intensive services through the VR agency may have their needs met by participating in one or more short-term pre-employment transition services activities through the VR agency, provider, or other contractor. If so, those students would not have applied for full VR services and were not reflected in the sample.

Another factor potentially impacting the higher enrollment of individuals in priority group 1 and priority group 2, and also a somewhat controversial topic, is that of "category creep" (i.e., VR counselors can "work" the system to ensure their clients receive services, and, therefore, find them eligible in the more significant top two categories). There exists also much discretion on the part of the VR counselors to determine eligibility for each of their clients. The existence of the documented disability along with functional limitations creating barriers to employment are the prominent factors considered when determining eligibility. VR counselors vary in their interpretation of functional limitations and have the liberty to check boxes indicating a greater number of functional limitations, thereby "helping" their clients secure a spot in a higher priority group so they can be released off delayed status sooner than others.

Work experience eligibility requirements. Additionally, a large portion of SWDs in priority group 1 (i.e., 2,252 or 57.3%--most severe) did not engage in a work experience and had lower rates of achieving CIE. The findings were expected and consistent with research by Mlynaryk et al. (2017) in that students with less severe disabilities tended to have more opportunities to engage in work experiences and obtain jobs. In addition, Carter et al. (2009b) discussed the low rate of participation in work experiences for many SWDs, which continued to exacerbate the low rates of CIE outcomes for SWDs (Test, Mustian, Mazzotti, & White, 2009). These findings were not unexpected given the nature of two of the work experiences offered by the Oklahoma VR agency—iJobs and school work study (SWS). These two work experiences in particular are intended for those SWDs who have fewer support needs and higher independence who are ready to begin working independently in their schools or in the community. In addition, some of the students in priority group 1 may have also been recipients of benefits from the Social Security Administration. Receipt of such benefits may have been a factor in decisions about

engaging in work for pay as some families and SWDs may have been afraid of losing their benefits. Additionally, as SWDs who are recipients of government benefits reach the age of 18, they undergo an age 18 redetermination of disability and benefits, which could impact desire to go to work. However, 1,677 (42.7%) of those in priority group 1 engaged in a work experience. In fact, priority group 1 participants made up over 52% of those individuals in work adjustment training (WAT) and in Project SEARCH. These findings were expected considering both work experiences are designed for individuals with more significant disabilities, and they include a large amount of instruction and supervision in addition to the hands-on job experiences. Also, the ultimate outcome of Project SEARCH is to obtain CIE upon completion of the program, and there is a team surrounding the individual throughout that entire process. From day one of Project SEARCH, the participants not only have a full-time instructor, but they also have one or more skills trainers (i.e., similar to job coaches) who learn the jobs, tasks, departments, and staff, teach the jobs and tasks, and fade to support the student in gaining independence on the internship rotation. They also receive daily instruction in employability skills over the nine months, have concerns and behaviors addressed timely onsite at the host business, and engage in ongoing evaluation and progress reporting. Given this level of detail, support, and length of program, it is not unexpected that 1,362 (38.2%) of priority group 1 participants represented all of the successful VR case closures. Many questions arise as to each client's success within their work experiences and how that might affect achieving CIE.

VR counselor role and responsibilities. VR counselors carry a heavy load in their job responsibilities. They have to network, market services, build relationships, attend meetings, handle vast amounts of paperwork, provide direct career counseling and guidance, and support their clients through receipt of services to employment and case closure. In addition, they may

also have internal agency responsibilities, serve on boards or committees, and potentially travel quite a bit to cover their territory. We are talking about professionals who make decisions all day and who have to prioritize what gets done when and for whom. Some VR counselors may not mention the availability of work experience programs to specific clients (e.g., those in priority group 1) due to possibly believing they might not yet be prepared for such an experience or would not be successful in that experience. Additionally, the VR counselor may not necessarily share such information with their school partners or families, which would impact numbers of SWDs participating in such experiences. In regards to VR services in general, the relationship the VR counselor builds with schools may impact rates of referral of SWDs to the VR agency, along with how often they communicate, their presence in schools, what process they have established for making referrals/applications, and the level of follow-through and follow-up. The agency may establish that a one-page application is all that is needed to apply for services, and, yet, each VR counselor has the liberty to require additional paperwork be submitted along with that one-page application. Some VR counselors require families of transition aged youth to submit a lengthy, daunting packet to the Oklahoma VR agency requesting services, oftentimes turning the parents off and resulting in no application for services. It is evident that VR counselor discretion may impact eligibility and service delivery.

Limitations

This study utilized extant data from the Oklahoma VR agency over an eight-year period. Having access to such a robust dataset was advantageous because it was data from an entire state VR system and not across multiple systems, adding to the consistency in the data, and reduction of types of errors in typical intervention studies. The data was comprehensive and existed in the agency's online database which was easy to access in collaboration with their data manager. This

increased the ability to narrow down the sample and sub-sample for analyses and understanding without adding researcher bias to the data collection process.

Using extant data also has limitations in that the researcher relied on the data collection and entry of others with the inability to control for what specific pieces of data may be necessary to fully understand the relationship between the independent and dependent variables. Relying on the VR agency to provide the data was helpful in accessing eight years' worth of data; however, the initial data pull of over 13,000 cases resulted in only 8,966 who met the criteria for having complete information regarding case closure within that time span. Additionally, using successful case closure (i.e., achievement of CIE) as the only dependent variable does not provide information to fully understand participating in the world of work, job satisfaction, types of jobs acquired, tenure on jobs after VR case closure (Gerber et al., 1992), wages earned, and job match to interests and skills, which has also been recommended by Scuccimarra and Speece (1990) as a measure of additional CIE outcome data.

Other limitations to using extant data that may have contributed to the unexpected finding include imprecision of the predictor variable (i.e., data entry, interpretation, agency characteristics), change in agency leadership, and bias in sample and sub-sample (e.g., order of selection and work experience characteristics). Overall, the imprecision of the predictor variable and inconsistency in the data set for the entire study may have been affected by the turnover of three executive directors of the Oklahoma VR agency during this eight-year time span. This change in leadership could impact budget, staffing, programs, priorities, and other resource and policy decisions over time. Given federal law drives policy and service, this should not occur; however, in reality it does.

Looking at the data, it was evident there were fewer transition clients in priority group 3 as compared to the other two more significant groups. VR agencies rely heavily on their school partners to make referrals of SWDs for VR services and to encourage and assist families in applying for services. However, not all schools and teachers know about VR, and not all SWDs are referred to VR. For those who are referred, not all students end up applying for services. Therefore, the VR agency experiences a wide range of ages of SWDs when they apply (e.g., 14-21 or even older as adults once out of high school). Oklahoma, like many other VR agencies, relies heavily on schools to know about VR and actively engage in the referral process. Sometimes this is a hindrance because this behavior often leaves out all of the SWDs not referred to VR and not accessing VR services. In addition, teacher misperceptions about who VR serves may influence which students get referred for services. For example, in one part of Oklahoma, there was a belief that only college-bound students with mild disabilities were served by the VR agency, while, in another nearby location, some schools thought only students with the most significant disabilities were served by VR. Over time, the agency also experienced the provision of stimulus funds which allowed the agency to potentially make policy and programming decisions that could affect services provided and clients served. Similarly, the agency also experienced a recession during this time further affecting their ability to continue to provide the level of services they have to those eligible for services.

In addition to the limitations mentioned above, there were also limitations in terms of field staff and accuracy and consistency in data entry and reporting. From a data entry perspective, VR counselors and their technicians may not be consistent in their identification and designation of clients as “transition participants”; therefore, that data field was not used to narrow down the sample further. Instead, age at time of application for VR services was relied on

as a marker for what is considered a transition client. This could have impacted the data in that some of the participants may not have actually been in school nor treated as a transition participant by the VR agency, thereby limiting their ability to engage in some services (e.g., SWS and iJobs). In addition, in Oklahoma, very few VR counselors only serve transition aged youth, while others either have mixed caseloads of youth and adults or only serve adults. Also, some of the VR counselors have little to no pre-service training/experience working with youth prior to stepping into their roles. In fact, many did not have transition addressed adequately (if at all) during their undergraduate and graduate studies. Lastly, of the VR counselors serving youth, some may not have chosen to work with youth but needed a job, were assigned to fill a specific transition caseload, or were helping work a vacant caseload until a new VR counselor was hired or assigned. All of these factors can impact the collaboration with schools and other partners for outreach, relationship building, and affording opportunities for SWDs, not to mention developing new work-based learning experiences.

Additionally, the makeup and bias in the sample and sub-sample could have been impacted due to the agency being under order of selection on and off in the early years, and then consistently in the later years from which the data was obtained. The agency continues to operate under the order of selection at the time of this dissertation, which adds further to the challenge that not everyone will have an equal chance to receive services. Operating under an order of selection impacts the ability to serve all applicants who are found eligible for VR services in that applicants are determined eligible and placed into delayed status. The way in which the Oklahoma VR agency typically releases applicants from delayed status into service status is by examining the agency budget monthly. They identify how many cases were closed the previous month, how much funding is then available to serve new clients, and then estimates how many

clients could be served based on an average per case expenditure. Once they identify who can be served, the executive team emails a list to the field (including VR counselors) to inform them of which clients are now available to move from eligibility to service status, which then requires the VR counselor to develop individualized plans for employment for each client. Sometimes there might be 100 individuals newly released and other times possibly 400. That adds more burden and sense of urgency for the VR counselors who have to work their caseloads and get paperwork done quickly so there is no additional gap in time for clients to receive services. Continuing to operate under an order of selection is confusing for schools and other partners and a barrier to helping SWDs access necessary services.

As mentioned previously, unique characteristics of each individual's work experience(s) (e.g., completing the work experience or hours spent in the experience) were unknown when analyzing research question 2. Client attributes varied widely which contributes to the heterogeneous nature of the sample and sub-sample. To demonstrate, the sub-sample of individuals in specific work experiences could include SWDs who possibly only completed one week of Project SEARCH or three weeks of iJobs in addition to those who fully completed all components of their work experiences. Students who participated in SWS could have been placed on jobs within their schools with more supervision or relaxed rules, districts, or in community businesses with more independence and higher expectations which could also impact the data and would be good variables to measure in the future. Work experience program characteristics also vary in duration, intensity, instruction, and supports, which, as previously described, could have affected outcomes.

Recommendations for Future Research

The data for this study included only those transition-aged youth and SWDs who received VR services; however, future research could examine the work experiences and post-school outcomes of youth and SWDs who had work experiences and were not engaged in the VR process. Many SWDs, their families, and their schools are not aware of such services; however, they also independently find opportunities for students to obtain work experiences—paid and unpaid. Examination of specific elements of such work experiences (e.g., duration of experience, completion of whole experience, career field of interest v. mere placement, paid v. unpaid, and location of experience—in school or in the community) will help further clarify factors predictive of post-school employment success and should be considered for future research.

The Oklahoma VR agency and other interested agencies could conduct further analyses to have a deeper investigation into the predictors as well as introducing additional predictors, consistent with recommendations of Mithaug et al. (1985) to look at what strategies, interventions, and activities lead to increased CIE. For example, the agency could conduct an evaluation or mixed-methods study about each of their work experience programs to determine the strengths and areas of improvement for each program as well as participant satisfaction and knowledge gain. Given the vast differences between work experiences (e.g., iJobs is an eight-week summer work experience v. Project SEARCH which is a nine-month immersive internship program), a study such as this would help refine each program to hopefully increase its impact on helping clients achieve CIE. Future research could also examine the outcomes of individuals who only engaged in one type of work experience one time versus those who may have engaged in the same work experience more than once or engaged in multiple work experiences throughout their VR case. This is supported by the research of McDonnall and O'Mally (2012)

who support SWDs engaging in multiple work experiences through their transition years. Another variable to examine within each work experience is how each program helps transition clients narrow their vocational goals (Lindstrom, 2007). As stated previously, Carter, Trainor, Ditchman, Swedeen, and Owens (2009a) discussed how engaging in a variety of job experiences helps SWDs determine what they like and do not like; without such experiences, how will SWDs really gain a good understanding of what is involved in jobs they "think" they have an interest in? The VR agency is encouraged to do a comparison study of those participants who completed the full work experience v. those who did not to identify what their case closure status is while comparing work outcomes. Having information about wages earned, jobs obtained, and status of employer benefits being provided would help the VR agency identify what programs are leading more fully to CIE so they can invest more resources into those programs, provide the program to more clients, and expand availability of the program across the state.

In addition, given that Project SEARCH was a predictor of achieving a post-school employment outcome, it is recommended that the VR agency examine the structure of this program and identify what pieces of it can be integrated into their other work experience programs. For example, full immersion in a workplace (i.e., in a business in the community) with an instructor and skills trainers who work as a team to provide instruction, work experiences, and job placement are essential components that may be effective in helping SWDs secure CIE after participation. In comparison, SWS is structured more loosely allowing schools to place SWDs in jobs of their choice/finding, such as in their own cafeteria or school office, other school district building, or in a community business. Also, the skills taught or expected may not be as rigorous, in comparison to those of Project SEARCH. Accountability on the part of the schools is not as stringent, and it is recommended the VR agency closely examine how to improve program

components of SWS, iJobs, and WAT to increase their effectiveness in helping lead to CIE after high school.

Work experience site comparison. In addition, not all programs are offered in all areas of the state. The VR agency could examine each iJobs location to determine the predictive nature of each site on CIE and isolate what appears to be the strengths of the specific program site to replicate in other areas. The same could be said for Project SEARCH and WAT as they are only offered in limited areas of the state. Given the rural nature of Oklahoma, many of the work experience programs are offered in urban areas. With interest from a team who wants to provide the service/program, any of the work experiences could be offered in any area of the state. Unfortunately, for now, locations of iJobs (now called Summer Transition Employment Program), WAT, and Project SEARCH are limited. SWS is much more available statewide by schools who choose to partner in the program for their local students.

Impact of federal law. Recognizing there was a significant change in federal law in 2014 with the passage of the WIOA with regulations following two years later, additional research could examine transition cases that were opened (and possibly closed) prior to WIOA and compare against the transition cases opened after WIOA to determine if a difference exists in outcomes for participants, and, if so, for which predictors.

Individuals receiving Social Security Administration benefits. Future research using extant data could also take into account looking at status of receiving Social Security Administration benefits at the time of application, anytime during the case, and at case closure. Studying this as an independent variable would help the VR agency identify how many individuals were able to reduce and/or completely get off government benefits when going to work, what benefits they received from their employers, how it impacted their earnings and

ability to live independently, and other relevant factors to post-school outcomes. Oftentimes, VR transition cases of individuals receiving Social Security Administration benefits may be short and only open and active while they are in high school, when parents or the individuals themselves ask for the case to be closed upon graduation from high school for fear their benefits would be cut upon gaining employment. Factors, such as medical needs and maintaining medical benefits concerns those receiving benefits, so that would help VR agencies guide their clients through benefits planning and a better understanding of the impact of work on their benefits and income in addition to all of the beneficial reasons for going to work.

Order of selection. Additionally, given the VR agency has been under order of selection (i.e., delayed status with a waiting list) for several years during the time in which the data were taken, the agency could also study the outcomes of individuals while identifying variables such as date of application for VR services, date of eligibility determination, date of individualized plan for employment development (i.e., services begin), and date of case closure. The agency would be able to have an idea of at what point cases are closed, reasons for closure, and take steps to ensure an easy and streamlined process for getting services. For many of those who apply and are put into delayed status due to order of selection, they often will refuse services by the time the agency reaches out to take them off the waiting list either due to receiving services elsewhere, lack of interest or trust in the agency and its services, lack of desire to work, or for other reasons. It would be interesting to investigate outcomes of people who had a long history with the VR agency versus those who had a short history with the agency, those who were in delayed status versus those who were not, and those who had multiple cases with the VR agency versus those who only had one case over time.

VR counselor caseload. Additionally, given the diverse nature of the actual VR counselor positions serving youth, the agency might consider doing a deeper dive into looking at caseloads of each type of counselor (i.e., transition only v. mixed caseload with adults), services provided to transition clients, engagement in work experiences, and outcomes. Research such as this would inform the agency about potential areas of improvement, growth, strategic planning, professional development, and programmatic needs.

Conclusion

This was not a representative sample, so generalization of the findings to a broader group is difficult; however, the findings can be informative for the Oklahoma VR agency, from which the data were pulled. Overall, the older the youth were at the time of application, the more likely they were to obtain CIE, along with those who identified as White and those who were male. Those who were in the highest priority group (i.e., most severe) had a lower chance of achieving CIE. Of those who engaged in a work experience, Project SEARCH significantly impacted achieving CIE as an outcome.

Many of the findings were unexpected and surprising—specifically the low rate of achieving successful closures for participants who were younger when applying for VR services, and the failure of work experience participation to predict achieving a CIE outcome. Additionally, it was unexpected to find older clients having higher rates of achieving successful closures given the emphasis on providing pre-employment transition services and secondary transition services beginning at age 16 or younger. It is imperative to determine why this discrepancy exists and what, if anything, can be changed in service delivery and coordination to ensure efforts at providing transition services younger are yielding the intended results.

There are many suppositions regarding what could have impacted referral to the VR agency, engagement in work experiences based on age, gender identification, priority group category, and racial identification, and outcomes of specific groups. Further research is needed to inform maximal effectiveness of the use funds, staff time, and other resources in providing transition services to youth with disabilities.

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