

OLDER WORKERS: DISABILITY AND EMPLOYMENT

Melanie A. Litle, B.S.

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APPROVED:

Zachery B. Sneed, Major Professor
Brandi Darensbourg, Committee Member
Chandra Donnell, Committee Member
Linda Holloway, Chair of the Department of
Rehabilitation, Social Work and
Addictions
Thomas Evenson, Dean of the College of
Public Affairs and Community
Service
James D. Meernik, Acting Dean of the
Toulouse Graduate School

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The purpose of this study was to explore the demographic variables, typical vocational services, and competitive employment rates of older workers, ages 40 - 69 years of age, with disabilities using the RSA-911 database. The results describe the types of services received and the competitive employment outcomes for state and federal vocational rehabilitation consumers receiving services in 2009. Furthermore the sample of older workers ($N = 1,152$) was equally stratified into three age groups. Older workers, aged 60 to 69, had higher levels of education, received more types of vocational services, and were competitively employed at a much higher rate than those in the other age groups. The methods, discussion, study limitations, and recommendations for future research are presented.

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CHAPTER 1

INTRODUCTION

Older workers and people with disabilities share a common bond in their reasons for employment and in the barriers they face when attempting to gain and keep employment. It is important that vocational rehabilitation professionals prepare to meet the demands older workers with disabilities will place on state-federal vocational agencies (Barros-Bailey, Fischer, & Saunders, 2007). Exploring the demographics, typical vocational rehabilitation services, and competitive employment outcomes of older workers with disabilities can help guide vocational rehabilitation counselors toward using more appropriate services to reduce the length of time older workers receive services.

Employment is a central theme in the lives of most adults and gaining employment is a significant indicator of rehabilitation for older workers with and without disabilities (Mitchell, Adkins, & Kemp, 2006; Smyer & Pitt-Catsouphes, 2005). The meaning of work for older workers and people with disabilities has several underlying common themes. First, extrinsic values which are rooted in material comforts such as financial security and living independently are important elements of the meaning of work for some individuals. Older workers, with and without disabilities, remain in the workforce to retain health benefits which would otherwise be too costly to personally afford to maintain (Kosciulek, 2005; Smyer & Pitt-Catsouphes, 2005). Second, intrinsic values associated with employment include contribution and inclusion within the community and a sense of achievement and empowerment that can provide personal meaning and a sense of purpose for older workers. These overall social and emotional benefits gained from employment contribute to the meaning of employment for older workers (Smyer & Pitt-Catsouphes, 2005).

Martin, Freedman, Schema, and Andreski (2009) found that chronic conditions during midlife such as cardiovascular disease, lung function, obesity, and diabetes increased for people 40 to 59 years of age between 1997 and 2006. Almost 80% of individuals over 60 years of age reported having one and 50% having two long term or chronic illnesses (Centers for Disease Control [CDC], 2003). Due to chronic conditions increasing in prevalence, the rate of disability that may affect people 40 to 69 years age will increase. This increase could potentially affect instrumental activity of daily living (IADL) associated with house work and errands and activity of daily living (ADL) such as personal hygiene and feeding oneself as a result of disabling conditions that begin before 50 years of age (Martin et al., 2010). Individuals with limitations associated with ADL have the lowest rate of employment (Kaye, 2010).

Aging can produce greater limitations in ADL and employment opportunities for those with disabilities or chronic illnesses. According to Mitchel et al. (2006), people with disabilities who are 40 to 49 years of age experience a sharp decline in employment while this decline begins for people without disabilities in their 50s and 60s. Mitchel et al. concluded this phenomenon may be in part due to functional declines usually beginning at 40 years of age for people with disabilities in contrast to 50 years of age for people without disabilities. Researchers have indicated that the unemployment status of people with disabilities increases with age compared to people without disabilities (Fogg, Harrington, & McMahon, 2010). Furthermore, the Current Population Survey (as cited in O'Brien & Figueiredo, 2009) reported that in 2007, 19.1 million working adults 21 to 64 years of age reported having a work disability, and of those people, 11% were 40 to 49 years of age, 16% were 50 to 59 years of age, and 26% were 60 to 64 years of age.

Functional Limitations Associated with Age

Mitchell et al. reported older workers with pre-existing disabilities to be more likely to experience increased functional disabilities such as bending, stooping, and kneeling as a result of experiencing the effects of aging earlier and more severely than those individuals without disabilities, while individuals without disabilities generally acquire functional impairments as a result of growing older. Functional limitations are commonly described as a restriction or lack of ability to perform an action or a set of actions within a range considered normal due to physical or emotional restriction (Burkhauser & Houtenville, 2010). The most common age-related functional limitations are associated with the cardiovascular, pulmonary, endocrine, and musculoskeletal systems (Martin et al., 2010; Pleis et al., 2010; Wadsworth & Kempfe, 2004). For example, an individual may experience limitations associated with fine motor skills related to arthritis as well as reduced stamina associated with cardiovascular and pulmonary disease. These conditions have a tendency to appear prior to 50 years of age in people with disabilities which may indicate that functional limitations occur earlier for baby-boomers with disabilities (Martin et al., 2010; Wadsworth & Kempfe, 2004).

Common medical conditions produce a number of functional limitations. Individuals who are older tend to have functional limitations across more than one domain of daily living. These limitations include the inability to walk a quarter mile or climb stairs, fatigue, dexterity challenges, difficulty standing for two hours or lifting objects, trouble bending or kneeling, and memory loss (Martin et al., 2009; Wadsworth & Kempfe, 2004). Wadsworth and Kempfe (2004) reported sensory acuity to play a major part in the reduction of function across domains that included employment. Common functional limitations experienced by people with disabilities are increased limitations in self-dressing, increased fatigue, reduced tolerance to pain,

and different problems associated with IADLs including hours worked and transportation acquisition (Mitchell et al., 2006).

Over the next several years, a number of older works will populate the workforce. Regardless of gender, race, or the time of onset of disability, the majority of older workers want to be employed for a variety of reasons, ranging from financial necessity to employment contributing to their productivity, personal identity, and sense of personal well-being (Finch & Robinson, 2003; Hursh, 2003; Wadsworth, Estrada-Hernandez, Kampfe, & Smith, 2008). It is imperative that vocational rehabilitation professionals understand the services and interventions that contribute to positive employment outcomes desired by this emerging segment of America's workforce. Therefore, the vocational rehabilitation services provided by the Rehabilitation Services Administration (RSA) bear attention.

Rehabilitation Services Administration

The RSA is the primary federal agency authorized by Congress to provide funds and oversee the administration of state vocational rehabilitation services providing employment services to individuals with disabilities. The RSA ensures Titles I, III, VII, and certain parts of Title V of the amended Rehabilitation Act of 1973 are carried out. The RSA also regulates policy, procedures, and program development that aids in the reduction of barriers at the societal and environmental level for people with disabilities (U.S. Department of Education, Office of Special Education Programs, n.d.).

Vocational Rehabilitation Services

Vocational rehabilitation services are rooted in governmental public policy and legislative initiatives such as the 1917 Smith-Hughes Act which focused on vocational education. The 1918 Smith-Sears Solders Rehabilitation Act provided rehabilitation services for

veterans of World War I (Justesen, 2002; Scotch, 2001). In 1920, the Smith-Fess Act established job placement assistance and vocational guidance to the U.S. civilian population (Justesen, 2002; Scotch, 2001).

The Rehabilitation Act of 1973 was designed to provide comprehensive and coordinated vocational services with a focus on vocational rehabilitation implemented by using research, training, and services to benefit people with disabilities in the areas of integrated employment, independent living, and inclusion in the community (Bruy re & Bro n, 200). The Rehabilitation Act also guaranteed equal opportunity and required nondiscrimination in hiring people with disabilities in federal government and any federally supported program or activity (Bruy re & Bro n, 200).

The vocational rehabilitation service and delivery system is an eligibility based system (Schaller, Yang, & Chien-Huey, 2004). There are three requirements for eligibility: (a) the applicant must have a medically documented sensory, physical, or mental impairment; (b) the applicant's impairment cannot significantly prevent employment; and (c) the applicant will benefit from vocational services that lead to competitive employment. Eligibility must be determined within a 60 day time frame by the vocational rehabilitation counselor. Supplemental Security Income (SSI) and Social Security Disability Income (SSDI) recipients are presumed eligible (Bruy re et al., 2002; A, 20 0; u in & oessler, 200).

The role of the vocational rehabilitation counselor is multifaceted. The primary purpose of vocational rehabilitation counseling is to implement services that help people with disabilities to achieve an employment outcome (Rubin & Roessler, 2008). The vocational rehabilitation counselor provides individuals with comprehensive services such as initial intake, vocational guidance and counseling, job development, employment planning, assistive technology,

vocational assessment and planning, referral services, job placement services; the counselor also monitors the consumer's progress (Dutta, Gervy, Chan, Chou, & Ditchman, 2008; Rubin & Roessler, 2008). Vocational rehabilitation counselor coordinates the following services: job readiness training, on the job supports, transportation service, college training, and vocational training. The vocational rehabilitation counselor ensures that these services are consistent with the individual's strengths, capabilities, and interests (Dutta et al., 2008; Rubin & Roessler, 2008). Important characteristics of vocational counselors included personal commitment to positive employment outcomes for consumers, interpersonal skills, postsecondary education, organizational skills, and vocational rehabilitation agency training (Hayward & Schmidt-Davis, 2005).

Vocational Rehabilitation and Older Workers

Vocational rehabilitation counselors and older workers recognize that employment contributes to independence, income, social inclusion, and an overall sense of well-being for people with disabilities as well as for people without disabilities (Dutta et al., 2008). A majority of people with disabilities are older and have experienced recent onset of their disabilities (Verbrugge & Yang, 2002). Furthermore, as individuals with childhood-related disabilities approach middle age the likelihood of age related disabilities may increase such as endocrine and cardiovascular disease. Both groups share overall poor health and reduced social participation, including work participation. Vocational rehabilitation professionals can play crucial roles in implementing strategies to produce positive employment outcomes for older workers with disabilities (Verbrugge & Yang, 2002).

Definition of "Older Worker"

Because there is no single definition of older worker, it is important to clarify some of the

definitions that most affect vocational rehabilitation counselors. Each organization has a concept of what “older” means, and the definitions vary. For example, the General Accounting Office (GAO, 2001a) and the Social Security Administration (SSA, 1990) use 55 years of age as an identifying marker for the aging American population. The Age Discrimination Employment Act (ADEA, 1967) established 40 years of age as the criteria for older workers. The Rehabilitation Act of 1973, which is administered by the RSA, provides people with disabilities access to services that promote employment; however there is no age criterion for eligibility (Barros-Bailey et al., 2007; Peterson & Aguiar, 2004; Rubin & Roessler, 2008). The ADEA definition of older worker was used for the purpose of this study.

Demographics

The aging workforce is often described according to the characteristics of the baby-boomer generation, explicitly individuals born between 1946 and 1964. The U.S. Census Bureau (2004) estimated the country’s baby-boomer population will increase by 56% before 2020 doubling the number of people with disabilities. The labor force will see a decrease in younger workers entering the workforce due to lower birth rates occurring between 1966 and 1985, which will result in 25% of the workforce being composed of older workers and create an increase in the number of people with disabilities in the workforce (Bruy re, 2006; Hursh, 2003; Perrin, 2005; Wadsworth et al., 2008; Weathers, 2006).

In 2005, 18.7% of the United States population reported some type of disability. The mean age of individuals in the U.S. population with disabilities in June of 2010 was 48 years of age (Allegretto & Lynch, 2010; Brault, 2008). The employment rates in 2010 for noninstitutionalized people with disabilities was 30.0% for those 45 to 54 years of age and 24.8% for the 55 to 64 age range, while people without disabilities in these age groups were

employed at 79.6% and 66.7%, respectively for the two age groups (U.S. Department of Labor, 2010c).

During January of 2009, 4.7% of workers without disabilities either lost or left the workforce compared to 9% of workers with disabilities. The overall unemployment rate in 2010 was 14.8% for workers with disabilities and 9.5% for those without disabilities (Allegretto & Lynch, 2010; Kaye, 2010; U.S. Department of Labor, 2010c). Older workers with disabilities are clearly employed at a much lower rate than older workers without disabilities; furthermore, the unemployment rate for people with disabilities is well above people without disabilities. Women are more likely to have disabilities than men, and the disability rate runs higher for African Americans and Caucasians than it does for Asians and Latinos (Barros-Bailey et al., 2007; Pleis et al., 2010).

Barriers to Employment

Barriers to employment for older workers are (a) ageism, (b) employment discrimination, (c) disincentives for employment, (d) flexibility in work hours, (e) lower education levels, (f) negative stereotypes, (g) negative attitudes, (h) skill obsolescence, (i) situational barriers, and (j) stigma. Ageism potentially poses a major barrier for older workers seeking employment. The term was first used in 1969 by Robert Butler, head of the National Institute on Age, to describe the systematic denial of opportunities and resources to individuals based on chronological age (Stark, 2009). Many older workers are concerned that ageism keeps them from gaining employment. Although the ADEA (1967) was designed to provide legal protection for workers 40 years of age and older, ageism may play a role in some employers' attempts to reduce the number of older workers in their employ or to implement more youth oriented hiring practices e cause of concern ith older or kers' health care costs Dixon, ichard, & ollins, 200 ;

GAO, 2005b). Based on the social and political activism associated with the baby-boomers, it is likely older workers will not easily tolerate oppression by ageism, and it has been predicted that discrimination cases associated with ageism will increase (Dixon et al., 2003; GAO, 2005b).

Employment discrimination and reluctance to hire people with disabilities due to misconceptions about disability can be a barrier to employment (Corrigan & Watson, 2002). Program services such as SSDI or SSI which provide supplemental income and insurance through Medicaid can serve as disincentives for employment, because employment may reduce or eliminate benefits for people already receiving these services (National Council on Disability, 2007).

The lack of flexibility in work hours of some full time jobs may represent barriers for individuals requiring flexible work hours due to their needs for self-care, therapy, and medical appointments (National Council on Disability, 2007). For some older workers, lack of education and training may create barriers for people with disabilities, since education is positively associated with gaining and retaining current and future employment. Researchers have found people with disabilities are two times more likely to experience lower education levels than people without disabilities (Corrigan & Watson, 2002; National Council on Disability, 2007).

Negative stereotyping within the American youth-driven culture has the potential to lead to the oppression of older workers and is at the root of ageism. Common stereotypes associated with age range from perceptions of diminished physical and cognitive capabilities to inability to adjust to change and reluctance to learn new skills (Fraser, McKenna, Turpin, Allen, & Liddle, 2009; Shafer, Choppa, & Siefker, 1993; Stark, 2009). Common barriers that people with disabilities experience are often associated with negative attitudes at all levels in the corporate work culture which tend to limit employment opportunities and retention for people with

disabilities. Negative attitudes often produce pessimism about the work performance of and promotion likelihood for people with disabilities (National Council on Disability, 2007).

Skill obsolescence is yet another potential barrier to employment for some older workers, because these workers have not been offered nor had opportunities to attain the same training and skills as their younger cohorts. The lack of opportunity for training may be due to employers' beliefs in the stereotype that older workers are not well suited for retraining and lack the ability to acquire new skills (Dixon et al., 2003). Situational barriers, such as job seeking skills, inadequate job network contacts, transportation, declining health, and personal attitudes, can all be barriers to employment for older workers (Shafer et al., 1993). Therefore, understanding the additional barriers experienced by older workers which are commonly associated with disability is important for vocational rehabilitation counselors.

Stigma, a critically important barrier, is often defined as a misconception about a group of people and has three components (Corrigan & Watson, 2002; National Council on Disability, 2007). These components are negative stereotypes, prejudice, and discrimination which all can be experienced at the public and personal level (Corrigan & Watson, 2002; National Council on Disability, 2007). Access to transportation can also be a barrier for people with disabilities. Given what is known about employment barriers for individuals with disabilities, significant barriers to employment are even more likely when individuals with disabilities age in the workforce.

Concept of Disability

There is no single definition of disability and different descriptions are based on the purpose and context for which it is used. Burkhauser and Houtenville (2010) stated, "*disability* is usually defined as a complex interaction between a person's health condition and the social

and physical environment” p. 49). The World Health Organization’s (WHO) 2001 *International Classification of Functioning, Disability, and Health* (ICF) provided a multipurpose concept of disability and provides multiple levels to describe health and health related states.

The ICF incorporated four concepts relating to environmental and personal factors that overlap underlying chronic health conditions (WHO, 2001). The first concept is impairment, which is defined as the consequences of disease, injury, or congenital abnormality, and it pertains to a loss of psychological, physiological, or anatomical function occurring at the organ level. Second, activity level is described as difficulty with carrying out a given activity and is often associated with ADL. Third, participation restriction is considered to be any problem related to taking part in life’s situations, such as work, due to barriers, including lack of accommodations and discrimination, which occur at a societal level. Fourth, disability is defined as the presence of impairment, activity limitation, and participation restriction (WHO, 2001).

The Americans with Disabilities Act (ADA) of 1990 was designed to provide economical and social civil rights protections and inclusion for people with disabilities (Peterson & Aguiar, 2004; Rubin & Roessler, 2008). Title I of the ADA defined disability as a physical or mental impairment that substantially limits one or more major life activities with a record of that impairment available for review or as the individual being regarded as having such impairment (Peterson & Aguiar, 2004; Rubin & Roessler, 2008). The state-federal vocational rehabilitation rules have described a disability as a physical or mental impairment which substantially impedes employment for the individual (U.S. Department of Labor, 2010c). The ADA definition will be used for the purpose of this study.

Medical advances have had a profound effect on the life spans of most Americans; however, a longer life span does not always mean living a life without some reduction in

function due to impairment. For example, while the mortality rate of people who have had a stroke has declined, the incident of stroke has not declined, and people who survive a stroke often experience some type of functional impairment (Smart, 2001). Although current research has indicated that older workers desire to remain in the workforce, obtaining employment continues to be problematic for those 40 years of age and older with disabilities. The aging workforce presents the potential for an increase of individuals seeking services from vocational rehabilitation professionals. The purpose of this study was to explore the demographic variables, typical vocational rehabilitation services, and competitive employment outcomes for older workers.

Literature Review

Capella (2002) examined the effects of gender, age, ethnicity, and severity of disability had on acceptance to vocational services and employment outcome. The 10,000 case closures from the RSA-911 for fiscal year 1997 were used in the study. Positive employment for the study was defined as employment that paid at least minimum wage. Data revealed that gender, age, ethnicity, and severity of disability were predictors of closure status. The study further revealed that older women were less likely to have quality employment outcomes compared to men. Gender was found to be a significant factor in employment outcomes, where older women were less likely to have positive employment outcomes compared to older men (Capella, 2002). Also, African American consumers with severe disabilities were less likely to be accepted for vocational services compared to European Americans with severe disabilities. The results of the study showed that inequities still exist in the vocational rehabilitation systems and that older workers case closed their employment was not competitive. Capella (2002) found disparities in

the area of acceptance rates; minorities and older women were more likely to be placed in low quality jobs.

Wadsworth and Kempfe (2004) found that the primary purpose for older workers applying for services from state-federal vocational rehabilitation programs was employment. Wadsworth and Kempfe also found that 33% or less of older workers received Social Security benefits and wanted to supplement their income with paid employment in order to maintain or improve their quality of living and economic stability. The data revealed that 70% of participants self-reported those secondary disabilities often associated with cardiovascular, respiratory, and endocrine diseases. Wadsworth and Kempfe revealed that 71% of the participants indicated they had more than one disability. Wadsworth and Kempfe found that older workers sought vocational rehabilitation services that would assist them in remaining in the work force.

Wadsworth et al. (2008) examined RSA-911 data from 9,787 consumers who were 65 years of age and older and had a disability and a status 26 or 28 case closure during the fiscal year 2002. Using a split-half cross validation random sample design, the participants were divided into two subgroups. Wadsworth et al. revealed that 6,508 participants had status 26 closures, and for those cases closed as rehabilitated, 44.3% experienced significant increases in weekly earnings and were employed in competitive employment, while 6.0% were employed by self-employment or in small businesses and 49.7% were listed as homemakers or unpaid domestic workers. Wadsworth et al. further revealed that for both subgroups prior service earnings, age, gender, and education were the best predictors of positive employment outcomes. They also showed 67% did not benefit from employment as a result their cases being closed as

not rehabilitated or rehabilitated to unpaid worker. Wadsworth et al. concluded that employment is a reasonable outcome for older workers, particularly those with severe disabilities.

Drebing et al. (2002) examined data from 27,799 cases of participants in the Compensated Work Therapy (CWT) program between 1993 and 1999 to identify age related differences in vocational rehabilitation participation. Data were derived from 256 survey responses from CWT participants at the Bedford VA Medical Center (Drebing et al., 2002). The study found participants 55 years of age and older to be less educated, receiving social security or veterans benefits, and less interested in competitive employment. The data revealed that participants 55 years and older have a disability as a result of a medical condition and participated longer in vocational rehabilitation. Significant findings involved competitive employment as a vocational goal steadily declined at 55 years of age and older. Furthermore, 84% of participants 55 years and older supported the vocational goal of employment in work environments that were appropriate for their medical or psychological needs. Drebing et al. concluded that older workers may utilize vocational rehabilitation to gain the benefits of employment but may not be solely interested in competitive employment.

Mayer, Gatchel, and Evans (2001) examined the relationship between age and socioeconomic outcomes of 1,052 individuals receiving Workers' Compensation benefits as a result of chronically disabling spinal disorders (CDS) in a functional restoration program. The data revealed that older participants had lower rates of return to work and one-year work retention. Mayer et al. also found that older participants experienced a longer duration of disability than younger participants. However, Mayer et al. concluded that older workers who return to work tend to return to the same job and employer.

Cavanaugh and Rogers (2002) examined RSA-911 data from 8,676 individuals 55 years of age and older who had a disability of blindness or visual impairment for the fiscal year of 1998. Cavanaugh and Rogers focused on predictors of competitive employment. The data revealed that 24% gained competitive employment and 76% gained noncompetitive employment. Cavanaugh and Rogers concluded that earnings at the time of referral represented the strongest predictor of competitive employment for individuals 55 years and older. Data revealed that being male, younger, previous employment, and length of services predict competitive employment outcomes. Cavanaugh and Rogers further found that being visually impaired versus legally blind with no secondary disability predict competitive employment outcomes.

Summary

The reasons for remaining or returning to the workforce vary for this segment of the population (Wadsworth, 2004). Since the older worker population is rapidly growing and is comprised of individuals who have experienced either the recent onset of disabilities or have been aging with disabilities, the small amount of research regarding older workers receiving services from state vocational rehabilitation agencies requires expansion (Finch & Robinson, 2003; Mitchell et al., 2006). Well-designed research is needed to establish the status of the demographics, vocational rehabilitation services, and competitive employment for individuals 40 years and older with disabilities and receiving vocational rehabilitation from state-federal vocational agencies.

CHAPTER 2

METHODOLOGY

The purpose of this study was to explore the demographics, typical vocational rehabilitation services provided, and competitive employment outcomes for older workers with disabilities who participated in vocational rehabilitation programs funded by the Rehabilitation Services Administration (RSA) stratified by three age groups (40-49, 50-59, and 60-69 years of age). The intervals for the three age groups were selected for two reasons: (a) 10-year intervals enabled the study to be cross-sectional and (b) developmentally each of the three decades of life experience unique and specific issues (Berk, 2010). The three research questions for the study were the following:

1. What are the demographics of older workers stratified by age?
2. What are the typical vocational rehabilitation services used by older workers stratified by age?
3. What is the competitive employment outcome rate for older workers stratified by age?

Research Design

The design for this study was driven by database research methods. Database research methods are increasingly becoming a means for communicating and sharing information collaboratively. Databases provide a way to gather large amounts of data for the use in a variety of areas such as science, business, and education (Hine, 2006). Data warehousing is a valuable storage design that allows for the organization of information from different functions of an agency to be brought together in a central location in order to cross relate different areas for analysis and correlation (Lancaster, 2005).

Source Database

The RSA-911 database is a comprehensive government collection of state by state data. The RSA-911 reporting system was designed for maintaining information on participants using state vocational agencies whose cases were closed for that fiscal year (RSA, 2008). The RSA-911 database provides caseload information, including but not limited to, demographics, services provided, disability characteristics, and case closure data describing all participants who received services from RSA programs (RSA, 2008). Data are reported by federal fiscal years (FY), with each year beginning on October 1st and ending on September 30th. The data are then available for evaluating the effectiveness of vocational rehabilitation agencies and employment interventions. The data collected must be unique and are accomplished by using agency code, social security number, and closure order code (RSA, 2008).

The strength of the RSA 911 database is that it contains 43 elements and codes providing basic information for 80 State-Federal vocational programs in all 50 states and the U.S. territories including Guam and Puerto Rico (Saunders, 2005). The data range from state agencies to projects with industry. The major limitation of the database is its archival nature. Kosciulek (2005) noted archival data to be sometimes lacking in statistical reliability and validity. Because the data are reported by FY, the database becomes outdated quickly. Another limitation is the data for disability are recorded by the vocational rehabilitation counselor before eligibility is determined. This could affect the number of primary and secondary disabilities when reporting general demographic information on open and closed cases (Rosenthal, Dalton & Gervery, 2007). Additionally, data entry error may also occur. Vocational rehabilitation counselors may not enter all services provisions or may enter case variable codes inappropriately. The RSA-911 has a cross-check to reduce data enter error, but mistakes may

still happen (Rosenthal et al., 2007). Furthermore, the RSA-911 database fails to include specific information regarding consumers who are unsuccessfully rehabilitated, and more than one version of the RSA-911 database is released each year. This may result in different data sets. (Wilson, Alston, Harley & Mitchell, 2002).

Sample Method

Sampling Design

Simple random sampling allows every individual of a population an equal chance of being selected for the sample; additionally, the selection of one individual has no effect on selection of another individual (Bluman, 2004). Random sampling as used in this study to ensure a constant probability for all case selections (Gravette & Wallnau, 1996). When working with very large populations, probability remains constant regardless of replacement due to the negligible effect on probability (Gravette & Wallnau, 1996). Random sampling reduces the probability of sample bias, which may occur as a result of inappropriate sample selection (Bluman, 2004).

Sample Size

A formula that is often used in behavioral science to determine sample size was developed by Krejcie and Morgan (1970):

$$s = [\chi^2 NP (1-P)] / [d^2 (N-1) + \chi^2 P (1-P)].$$

In the above formula, s represents required sample size; χ^2 represents chi-square for one degree of freedom at the confidence level of $\chi^2_{crit} = 3.841$; N is equal to population size, P represents the population proportion (.50 which provides the maximum sample size), and d is the degree of accuracy represented as a proportion very similar to $\alpha = .05$; Krejcie & Morgan, 1970). The above formula was utilized for determining the sample size for the total number of cases

representing the 40 to 69 years of age group, $N = 235,794$. The subsample included 384 cases and was stratified according to three age groups, 40 to 49, 50 to 49, and 60 to 69 years of age.

Stratification

Stratified random sampling, sometimes referred to as oversampling, methods were used. Stratification is used in sampling when researchers wish to study subgroups found within a given population (Bluman, 2004). First, stratified random sampling required the division of the population into subgroups according to homogeneous traits such as age, ethnicity, or disability type. Second, a simple random sample was taken from each subgroup (Bluman, 2004). However, when subgroups differ in total numbers, the use of the nonproportional stratified sampling method allows the researcher to perform a simple random sample using the same sample size for each subgroup in order to implement meaningful statistical analyses (Gall, Borg, & Gall, 1996). This sampling method was used in this study.

Sampling Procedure

Predictive Analytics Software (PASW) version 17 was used to derive the sample from the database. First, each of the three age-based subgroup populations were taken from the RSA-911 data file and placed in three separate PASW data files. Second, PASW was queried for each of the three age groups (40-49, 50-59, and 60-69) to derive a simple random sample for each group. This action required using the filter variable of age for each group (Kinnear & Gray, 2010). The nonproportional stratified sampling method was used for ensuring that each of the three subgroups included 384 cases, as the required sample size, bringing the total number of cases studied to 1,152.

Demographic and Case Service Variables

The 12 demographic variables used in this study were: (a) age, (b) gender, (c) race or

ethnicity, (d) level of education attained at application, (e) living arrangement at application, (f) primary disability, (g) secondary disability, (h) employment status at application, (i) primary source of support at application, (j) employment status at closure, (k) veteran status, (l) significant disability. The 11 case variables for this study were: (a) closure order, (b) previous closure, (c) source of referral, (d) competitive employment, (e) type of closure, (f) reason for closure, (g) date of closure services provided, (h) hours worked in a week at closure, (i) weekly earning at closure, (j) employment status at closure, and (k) length of services (RSA, 2008).

Vocational rehabilitation may require multiple services over an extended time frame as well as one or more physical or mental disabilities as a result of other conditions, such as amputation, blindness, traumatic brain injury, mental illness, heart disease, stroke, and arthritis (RSA, 2008). The 22 service variables used in this study were: (a) assessment, (b) diagnosis and treatment, (c) vocational rehabilitation counseling and guidance, (d) college or university training, (e) occupational/vocational training, (f) on the job training, (g) basic academic remedial or literacy training, (h) job readiness training, (i) disability related augmentative skills training, (j) miscellaneous training, (k) job search assistance, (l) job placement assistance, (m) on the job supports, (n) transportation, (o) maintenance, (p) rehabilitation technology, (q) reader, (r) personal attendant, (s) technical assistance, (t) information and referral, (u) other services, (v) interpreter services (RSA, 2008).

Data Analysis

The statistical methods for the study were selected to accurately depict and summarize a large set of data in a simplified manner. Data can be reorganized and presented in several different ways; however, for this study, PASW version 17 was used to calculate all necessary statistics. Descriptive statistics were computed for each case variable. More specifically,

frequency distributions were computed for all demographic and case variables except age, weekly hours worked at closure, weekly earnings at closure, and length of service. These case variables were computed using measures of central tendency and reported via means and standard deviations.

Operational Definitions

Older worker. An individual who is 40 years of age or older. The ADEA of 1967 prohibits discriminating against people 40 years old and older in work-related hiring and discharging situations. The ADEA prevents employers from unequally compensating older workers. This compensation includes pay, terms of employment, conditions of employment and the workplace, and the privileges (i.e., health insurance and retirement plans) associated with being employed by the employer (ADEA, 1967).

Elements of the RSA-911 Reporting Manual. Operational definitions are based on the description of the 43 case elements found in the *RSA-911 Reporting Manual for the Case Service Report* (2008). All elements have a corresponding numeric code to record data (RSA, 2008).

Age. The chronological age of study participants.

Closure order. The order in which more than one service record for an individual is closed in the fiscal year (RSA, 2008).

Competitive employment. Self-employment or employment that is full-time or part-time during which the individual earns minimum wage or more in an integrated work setting (RSA, 2008).

Date of application. The year, date, and month an individual has applied for services, and has completed and signed application forms or has provided the necessary information to begin assessment for eligibility (RSA, 2008).

Date of closure. The date the service record was closed by vocational services and is indicated by an eight digit code (RSA, 2008).

Employment status at application. Indicates if the applicant is employed or unemployed (RSA, 2008).

Employment status at closure. The type of employment outcome at the time the record was closed by vocational services (RSA, 2008).

Race or ethnicity. Indicates self-identification from the following categories: White; Black or African American; American Indian or Alaska Native; Asian, Native Hawaiian or Pacific Islander; Hispanic or Latino (RSA, 2008).

Gender. This code is indicated as either male or female.

Hours worked in a week at closure. Refers to the hours worked in a week for wages, salary, and tips or commissions (RSA, 2008).

Level of education attained at application. The level of education one has completed. For example, elementary, high school, and postsecondary education (RSA, 2008).

Living arrangement at application. The type of housing arrangement of an individual such as temporary or permanent on date of application for vocational services (RSA, 2008).

Primary disability. Any mental or physical impairment that substantially impedes the individual's ability to employment (RSA, 2008).

Primary source of support at application. An individual's largest single means of economic support at the time of application for vocational rehabilitation services (RSA, 2008).

Reason for closure. This code refers to the reason for record closure (RSA, 2008).

Secondary disability. Any mental or physical impairment but is not the primary disability that impedes employment (RSA, 2008).

Services provided. Services provided to an individual in order to carry out or in development of the individualized plan for employment (IPE) (RSA, 2008).

Significant disability. An individual with a disability who has a severe physical or mental impairment that seriously limits one or more functional capacities in term of employment outcome, such as mobility, communication, self-care, work skills, and work tolerance (RSA, 2008).

Source of referral. The referring agency, institution, or individual (RSA, 2008).

Type of closure. Indicates when an individual exited the vocational program (RSA, 2008).

Veteran status. Indicates whether or not the individual has actively served in the Army, Navy, or Air Force and was discharged or released under honorable conditions (RSA, 2008).

Weekly earnings at closure. The amount of money which is rounded to the nearest dollar as a result of the individual gaining employment including all wages, tips, and commissions (RSA, 2008).

Variables

Variables are organized by research questions.

Research Question 1 variables. There were 12 variables included in answering this research question.

Age. The chronological age of study participants at application.

Gender. This code is indicated as either male or female. This variable was coded as 1 = male and 2 = female.

Race or ethnicity. Indicates self-identification from the following categories: White (= 1); Hispanic or Latino (= 2); Black or African American (= 3); Asian (= 4); Native Hawaiian or Pacific Islander (= 5); American Indian or Alaska Native (= 6; RSA, 2008).

Source of referral. The referring agency, institution, or individual (RSA, 2008). The variable was coded 01 = physicians, medical personnel and/or other medical institutions, 02 = Federal, state, and community agencies including, welfare agencies state and federal, community rehabilitation agencies, SSA, and one-stop center, 03 = self-referral, and 04 = other sources including educational institutions (elementary, secondary, and postsecondary).

Level of education attained at application. The level of education one has completed. For example, elementary, high school, and postsecondary (RSA, 2008). This variable was coded as 0 = no formal education and elementary schooling (grades 1-8); 1 = secondary education, no high school diploma (grades 9-12), special education certificate of completion/diploma or in attendance, high school graduate or equivalency (GED); 2 = postsecondary education (no degree); 3 = associate degree or vocational /technical certificate; 4 = bachelor's degree; 5 = master's degree or higher.

Living arrangement at application. The type of housing arrangement of an individual such as temporary or permanent on date of application for vocational services (RSA, 2008). This variable was coded as 0 = private residence and 1 = other residence including community residence or group home, rehabilitation facility, mental health facility, nursing home, adult correctional facility, halfway house, substance abuse treatment center, homeless shelter, and other.

Veteran status. The individual has actively served in the Army, Navy, Marines, or Air Force and was discharged or released under honorable conditions (RSA, 2008). This variable

was coded as 0 = not a veteran and 1 = veteran.

Significant disability. An individual with a disability who has a severe physical or mental impairment that seriously limits one or more functional capacities in term of employment outcome, such as mobility, communication, self-care, work skills, and work tolerance (RSA, 2008). This variable was coded as 0 = no significant disability and 1 = has significant disability.

Primary disability. Any mental or physical impairment that substantially impedes the individual's ability to employment (A, 200). This variable was coded as 1= blindness and/or another type of visual impairment; 2 = deafness, loss of hearing, and expressive or receptive communicative impairments; 3 = deaf-blindness (unable to see and hear); 4 = mobility and dexterity and orthopedic/neurological and other orthopedic impairments; 5 = physical impairment including fatigue, weakness, pain, respiratory, and other physical impairments; 6 = psychosocial impairment including interpersonal and behavioral problems or difficulties coping; 7 = cognitive impairments including impairments with learning, thinking, and processing information, and concentration; 8 = other mental impairments.

Secondary disability. Any mental or physical impairment but not the primary disability that impedes employment (RSA, 2008). This variable was coded as 1= blindness and/or another type of visual impairment; 2 = deafness, loss of hearing, and expressive or receptive communicative impairments; 3 = deaf-blindness (unable to see and hear); 4 = mobility and dexterity and orthopedic/neurological and other orthopedic impairments; 5 = physical impairment including fatigue, weakness, pain, respiratory, and other physical impairments; 6 = psychosocial impairment, including interpersonal and behavioral problems or difficulties coping; 7 = cognitive impairments including, impairments with learning, thinking, and processing information, and concentration; 8 = other mental impairments.

Employment status at application. Indicates if the applicant is employed or unemployed (RSA, 2008). This variable was coded as 1= employed at application including employment without supports in integrated setting, extended employment, self-employment (except BEP), homemaker, unpaid family workers, and employment with supports in an integrated setting, and 0 = not employed, student in secondary education, other student, trainee, intern or volunteer, and other apprentice (RSA, 2008).

Primary source of support at application. An individual's largest single means of economic support at the time of application for vocational rehabilitation services (RSA, 2008). This variable was coded as 1 = personal income; 2 = family and friends; 3 = SSI, SSDI, and Temporary Assistance for Needy Families (TANF); 4 = all other sources.

Research Question 2 variables. There were 23 variables included in the analysis for answering this research question.

Services provided. Services provided to an individual in order to carry out or in development of the individualized plan for employment (RSA, 2008). All services variables were coded as 0 = not provided and 1 = provided.

Assessment. Services provided to determine eligibility for vocational rehabilitation services (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Diagnosis and treatment. Included prosthetic or like assistive devices (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Vocational rehabilitation counseling and guidance. Counseling that is designed to help an individual achieve employment including, but not limited to adjustment to disability, vocational counseling, and counseling that focuses on family and social concerns (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

College or university training. Full or part time enrollment in academic institution such as junior college, technical college, or a four-year postsecondary institution (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Occupational/vocational training. Any institution that provides vocational occupational or vocational training which does not result in a degree or certificate (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

On the job training. Training that is job specific that is provided by prospective or sponsored employer (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Basic academic remedial or literacy training. Literacy training or remedial reading training need to perform work in a competitive labor market (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Job readiness training. Job skills training that relate to work such as grooming work behavior, and arriving at work on time (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Disability related augmentative skills training. Training that involves learning but not limited to cognitive retraining or training, lip reading, sign language, and braille (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Miscellaneous training. Any type of training not listed under other services provisions (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Job search assistance. Includes but not limited to identifying appropriate jobs, learning and developing interview skills, and contacting potential companies for on the consumer's behalf (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Job placement assistance. Referral that result in an interview for the consumer. The variable was coded as 0 = not provided and 1 = provided.

On the job supports. Support services that are designed to help with job retention such as the provision of a job coach, and follow up and follow along services (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Transportation. Includes but not limited to travel training skills for public transportation, the purchase of bus passes, which allow an applicant or eligible consumer to participate in vocational rehabilitation services (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Maintenance. monetary supports for such things as food, clothing that are in excess to the normal expenses for the consumer (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Rehabilitation technology. The application of technologies that are beneficial to the consumer and address barriers in the area of education, employment, and living independently (RSA, 2008) The variable was coded as 0 = not provided and 1 = provided.

Reader. Services that are provided to people with blindness or low vision, certain learning disabilities, neurological and other physical or mental impairments and may include, transcription into Braille and audio reading (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Interpreter. Services provided to consumers who are deaf or have loss of hearing including sign language, captioning services, and tactile interpretation for consumers who are deaf-blind (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Personal attendant. Aid the consumer in such things as bathing, dressing, and mobility including transportation (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Technical assistance. Service provisions that are related to resources associated with self-employment and small business operations including but not limited to market analyses and business plans (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Information and referral. Referral to other community agencies for services that vocational rehabilitation does not provide (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Other services. Services that are not listed elsewhere such as tool or equipment, medical care for acute conditions that arise during the rehabilitation process that may be a barrier to employment (RSA, 2008). The variable was coded as 0 = not provided and 1 = provided.

Research Question 3 variables. There were eight variables included in the analysis for answering this research question.

Competitive employment. Self-employment or employment that is full-time or part-time during which the individual earns minimum wage or more in an integrated work setting (RSA, 2008). This variable was coded as 0 = not competitively employed and 1 = competitively employed.

Employment status at closure. The type of employment outcome at the time the record was closed by vocational services (RSA, 2008). This variable was coded as 0 = not employed and 1 = employed including employment without supports in integrated setting, extended employment, self-employment (except BEP), homemaker, unpaid family workers, and employment with supports in an integrated setting.

Hours worked in a week at closure. This was a ratio variable referring to the hours worked in a week for wages, salary, and tips or commissions (RSA, 2008).

Weekly earning at closure. The amount of money earned (a ratio variable) and rounded to the nearest dollar as a result of the individual gaining employment including all wages, tips, and commissions (RSA, 2008).

Reason for closure. This variable refers to the reason for record closure (RSA, 2008) with 0 = achieved employment outcome, 1 = unable to locate or contact, 2 = disability too significant to benefit from vocational rehabilitation services, 3 = refused services or further services, 4 = death, 5 = individual in institution, 6 = transferred to another agency, 7 = failure to cooperate, 8 = no disabling condition, 9 = no impediment to employment, 10 = transportation not feasible or available, 11 = does not require vocational rehabilitation services, 12 = extended services not available, 13 = all other reason, and 14 = extended employment.

Type of closure. Indicates when an individual exited the vocational program (RSA, 2008). This variable was coded as 1 = exited as applicant, 2 = exited during or after a trial work experience/extended evaluation, 3 = exited with an employment outcome, 4 = exited without an employment outcome, after receiving services, 5 = exited without an employment outcome, after a signed IPE, but before receiving services, 6 = exited from an order of selection waiting list, 7 = exited without an employment outcome, after eligibility, but before an IPE was signed.

Closure order. The order in which more than one service record for an individual is closed in the fiscal year (RSA, 2008). This variable was coded as 1 = first closure in FY, 2 = second closure in FY.

Length of services. The length of time passed between date of application and date of closure. This variable was computed by subtracting the date of application which the date the

consumer applied for services from the date of closure which is the date the consumer's case was closed.

CHAPTER 3

RESULTS

The purpose of this study was to explore the data and identify variables related to demographics, typical vocational rehabilitation services, and competitive employment rates for older workers stratified by age group (40-49, 50-59, 60-69 years of age) using the RSA-911 database for fiscal 2009. In the sections that follow data and results are provided in the text for older workers in the entire sample and the stratified sample results are provided in tabular format. The results provide a general overview of the RSA-911 case variables associated with the following three research questions:

1. What are the demographics of older workers stratified by age?
2. What are the typical service provisions stratified by age?
3. What is the competitive employment rate for older workers stratified by age?

Research Question 1

The demographic variables for older workers revealed that the mean (M) age at application was 53.63 years with a standard deviation (SD) of 8.0 years. The gender distribution showed that 50.5% ($n = 582$) of the sample were male and 49.2 % ($n = 568$) were female. The age groups were coded for all analyses of the stratified sample as follows: 1 = 40-49; 2 = 50-59; 3 = 60-69. The largest group 67.3% ($n = 775$), self-identified as White. A smaller number 21.6% ($n = 249$), identified as Black/African American. The results from the study revealed that 1.5% ($n = 17$) were American Indian or Native Alaskan and a smaller number 1.0% ($n = 11$) were Asian. Two people (0.2%) identified as Native Hawaiian or Pacific Islander and 7.6% ($n = 87$) identified as Hispanic/Latino. The number and percentage of people in sample by ethnic group can be found in Table 1.

Table 1

Demographic Data for Research Question 1 Stratified by Age Group

Variable	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Gender								
Male	51.6	198	47.9	184	52.1	200	50.5	582
Female	48.2	185	51.8	199	47.9	184	49.2	568
Missing	0.3	1	0.3	1			0.2	2
Ethnicity/Race								
White	69.2	265	74.0	284	83.1	319	67.3	775
Black/African-American	28.4	109	21.9	84	15.6	60	21.6	249
American Indian or Native Alaskan	1.8	7	3.4	13	1.8	7	1.5	17
Asian	0.5	2	1.8	7	0.8	3	1.0	11
Native Hawaiian or Pacific Islander	0.5	2	0.3	1	0.5	2	0.2	2
Hispanic/Latino	8.4	32	7.3	28	7.0	27	7.6	87
Missing	1.8	6					1.0	11
Mean Age at Application in Years	44.31		53.83		62.75		53.63	

Note. Total sample $N = 1,152$; each age group's total $n = 384$.

The RSA 911 database also recorded how clients were referred to vocational rehabilitation agencies. The largest group of older workers (39.8%) were self-referred. The next largest group (26.4%) indicated being referred by other sources not listed. A smaller amount of older workers were referred by agencies recorded in the database so that 17.2% were referred by physicians, medical personnel, and/or other medical institutions. Federal, state, and community agencies provided referrals for 5.5% of the sample. Data were missing for four individuals (0.4%) of the sample. See Table 2.

The levels of education attained at application are described in Table 2. Regarding education, the largest group of older workers (50.7%) reported having only a high school or a graduate equivalency diploma (GED). Most of the participants (90.9%) reported their living arrangements at application to be a private residence. A smaller number of older workers

reported other living arrangements (9.1%) that included community residence or group home, rehabilitation facility, mental health facility, nursing home, adult correctional facility, halfway house, substance abuse treatment center, homeless shelter, other, and no information. Veteran status is recorded in the RSA911 database. The results from the study identified 8.2% of the sample were veterans.

Table 2

Additional Demographic Data for Research Question 1 Stratified by Age Group

Variable	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Veteran Status								
No	91.1	350	87.5	336	82.6	317	87.1	1,003
Yes	6.0	23	6.8	26	12.0	46	8.2	95
Missing Data	2.9	11	5.7	22	5.5	21	4.7	54
Educational Attainment								
Less than high school	3.7	14	3.4	13	6.7	26	4.6	53
High School Diploma or Equivalent	58.0	237	50.0	192	44.0	169	50.7	584
Postsecondary Education, No Degree	16.1	62	19.0	73	18.5	71	17.9	206
Associate's Degree or Vocational/Technical Certificate	12.8	49	12.8	49	10.9	42	12.2	140
Bachelor's Degree	6.3	24	8.1	31	14.3	55	9.5	110
Master's Degree or Higher	2.9	11	5.5	21	5.2	20	4.5	52
Missing Data	0.3	1	1.3	5	0.3	1	0.6	7
Living Arrangements								
Private Residence	89.1	342	88.8	341	94.8	364	90.9	1,047
Other Residence	10.9	42	11.2	43	5.2	20	9.1	105
Missing Data								
Referral Source								
Federal, State, Community Agency	18.2	70	14.9	57	13.6	52	15.5	179
Physicians or Other Medical	15.9	61	15.6	60	21.9	84	17.8	205
Self	37.8	145	44.8	172	37.0	142	39.8	459
Other Sources	27.6	106	24.0	92	27.6	106	26.4	304
Missing Data	0.5	2	0.8	3			0.4	5

Note. Total Sample *N* = 1,152; each age group's *n* = 384.

Primary Disability

The results showed that the largest group of older workers (19.4%) in the sample self-identified as having a psychosocial impairment. These types of impairments often include interpersonal and behavioral problems or difficulties. Also difficulty coping is listed as an example of a psychosocial impairment in the RSA manual.

The next largest group (18.1%) had a primary disability that was associated with mobility and dexterity (see Table 3). This group also includes people experiencing a disorder associated with orthopedic/neurological and other orthopedic impairments as their primary disability. Third largest (17.1%) group had a primary disability that was associated with physical impairments. These types of impairments include things such as (fatigue, weakness, pain), respiratory, and other physical impairments. The next largest group (16.0%) was composed of people with deafness, loss of hearing, and expressive or receptive communicative impairments as their primary disability. The fifth largest category (9.5%) included people who reported blindness and or another type of visual impairment as their primary disability. A smaller number (7.2%) of persons reported having other mental impairments that were different than psychosocial impairments. The smallest group (5.5%) identified in the sample consisted of people with cognitive impairments. These types of impairments, according to the RSA manual, include problems or difficulties involving learning, thinking, processing information, and concentration. One case reported deaf-blind as their disability. The variable for significant disability showed 81.3% were recorded as having a significant disability. Eight-eight cases (7.6%) had missing data. Data for secondary disabilities among older workers are located in Table 4.

Table 3

Primary Disability Frequencies

Variable	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Significant Disability								
Yes	81.5	313	80.7	310	81.5	313	81.3	936
No	10.4	40	10.9	92	12.0	46	11.1	128
Missing	8.1	31	8.3	32	6.5	25	7.6	88
Blindness/Other Visual Impairment	5.2	20	8.1	30	15.4	59	9.5	110
Deafness, Loss of Hearing, Communication Impairments, Other Hearing Impairments	7.9	30	13.9	54	26.3	101	16.0	184
Deaf-blindness	--	--	0.3	1	--	--	--	--
Mobility and Dexterity	17.0	65	20.6	79	16.9	65	18.1	209
Physical Impairments	18.2	70	16.7	64	16.5	63	17.1	197
Cognitive Impairments	7.6	29	5.2	20	3.6	14	5.5	63
Psychosocial Impairments	25.0	96	22.4	86	10.7	41	19.4	223
Other Mental Impairments	11.2	43	6.3	24	4.2	16	7.2	83
No Impairment	0.5	2	0.5	2	1.6	6	0.8	10
No Information	7.6	29	6.3	24	4.9	19	6.3	72

Note. Total Sample $N = 1,152$; each age group's $n = 384$.

Table 4

Secondary Disability Frequencies

Variable	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Blindness/Other Visual Impairment	0.3	1	0.8	7	2.4	9	9.5	100
Deafness, Loss of Hearing, Communication Impairments, Other Hearing Impairments	1.1	4	0.9	7	9.2	35	16.0	184
Deaf-blindness	--	--	--	--	--	--	--	--
Mobility and Dexterity	5.9	23	7.8	30	9.2	35	18.1	209
Physical Impairments	10.2	39	15.8	61	15.4	59	17.1	197
Cognitive Impairments	4.2	16	3.1	12	1.8	7	5.5	63
Psychosocial Impairments	20.3	78	10.9	42	6.0	23	19.4	223
Other Mental Impairments	7.8	30	6.0	23	3.1	12	5.6	65
No Impairment	41.4	159	44.8	172	54.2	172	43.7	503
No Information	8.9	34	8.9	34	6.3	24	6.3	72

Note. Total Sample $N = 1,152$; each age group's $n = 384$.

Regarding employment status at application the majority of older workers in the sample, 70.1% were not employed at application (see Table 5). Conversely, 29.7% were employed. When queried about client's primary source of support at application, 35.1% of the sample reported Supplemental Security Income, Social Security Disability Insurance, and TANF, or a combination of those programs (see Table 5). Following public assistance programs, the next largest group (26.7%) identified support from personal income. The third largest group (26.6%) reported family and friends. Subsequently, smaller cohorts (9.5%) reported all other sources (private disability insurance and private charities). Twenty-four people (2.1%) had missing data.

Table 5

Employment Status at Application

Variable	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Unemployed at Application	79.4	305	73.7	283	57.3	220	70.1	808
Employed at Application	20.6	79	25.8	101	42.7	164	29.7	344
Primary Source of Support at Application								
Personal Income	18.8	72	37.8	145	37.8	145	26.7	308
Family and Friends	30.9	116	16.7	64	16.7	64	26.6	307
Public Support (SSI, SSDI, TANF, etc.)	37.8	145	35.7	137	35.7	137	35.1	404
All Other Sources	11.2	43	8.6	33	8.6	33	9.5	109
Missing Data	2.1	8	1.3	5	1.3	5	1.4	18

Note. Total Sample *N* = 1,152; each age group's *n* = 384.

Research Question 2

Vocational services are provided by vocational rehabilitation agencies. These services are designed to help people with disabilities gain employment. The typical vocational services for older workers were explored to identify the most prevalent types of services. The most common service received by older workers at 55.6% was assessment. Vocational rehabilitation

counseling and guidance followed next with 50.3%, just over half of the sample. Diagnosis and treatment was the next with 37.3% followed by other services at 19.3% and job placement assistance at 18.0% which were evenly distributed in the sample. Transportation was the next most common service provided older workers at 16.2%. Equal amounts of people in the sample received job search assistance 13.3% and information and referral at 13.3%. Finally, only 10.9% of the sample received rehabilitation technology. Thirteen of the 22 typical services were provided to less than 10% of the sample. They were (a) college or university training, (b) occupational/vocational training, (c) on-the-job training, (d) basic academic remedial or literacy training, (e) job readiness training, (f) disability related augmentative skills training, (g) miscellaneous training, (h) on-the-job supports, (i) maintenance, (j) reader, (k) interpreter, (l) personal attendant, (m) technical assistance. Frequencies and percentages organized by service type can be found in Table 6.

Table 6

Services Provided by Vocational Rehabilitation Agencies

Variables	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Assessment								
Service Provided	56.2	216	54.7	210	55.7	214	55.6	640
Diagnosis & Treatment								
Service Provided	29.2	112	36.5	140	46.7	178	37.3	430
Vocational Rehabilitation, Counseling, & Guidance								
Service Provided	46.1	177	46.9	180	57.8	222	50.3	579
College or University Training								
Service Provided	5.7	22	3.1	12	0.3	1	3.0	35
Occupational/Vocational Training								
Service Provided	7.6	29	5.2	20	2.9	11	5.2	60
On-the-Job Training								
Service Provided	1.0	4	1.6	6	1.0	4	1.2	14

(table continues)

Table 6 (continued).

Variables	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Basic Academic Remedial or Literacy Training								
Service Provided	1.3	5	1.3	5	4.7	18	0.9	10
Job Readiness Training								
Service Provided	6.2	24	4.4	17	4.2	16	4.9	57
Disability Related Augmentative Skills Training								
Service Provided	1.8	7	3.1	12	4.7	18	3.2	37
Miscellaneous Training								
Service Provided	7.6	29	5.5	21	3.4	13	5.5	63
Job Search Assistance								
Service Provided	15.1	58	11.5	44	13.3	51	13.3	153
Job Placement Assistance								
Service Provided	21.6	83	15.9	61	16.4	63	18.0	207
On-the-job Supports								
Service Provided	7.8	30	7.8	30	8.1	31	7.9	91
Transportation								
Service Provided	21.9	84	16.1	62	10.7	41	16.2	187
Maintenance								
Service Provided	9.9	38	7.9	30	3.9	15	7.2	83
Rehabilitation Technology								
Service Provided	8.9	34	7.9	30	15.4	59	10.9	126
Reader								
Service Provided	0.0	0	0.0	0	0.0	0	0.0	0
Interpreter								
Service Provided	0.0	0	0.3	1	0.0	0	0.6	7
Personal Attendant								
Service Provided	2.1	8	0.3	1	0.3	1	0.2	2
Technical Assistance								
Service Provided	15.1	58	2.1	8	4.2	16	2.8	32
Information and Referral								
Service Provided	15.1	58	9.6	37	15.7	58	13.3	153
Other Services								
Service Provided	21.1	81	18.5	71	18.2	70	19.3	222

Note. Total Sample $N = 1,152$; each age group's $n = 384$.

Research Question 3

Competitive employment is defined as employment at the time of case closure.

Employment must be in an integrated setting and implemented on a full-time or part-time basis and result in wages at or above minimum wage (RSA, 2008). All consumer cases remain open while consumers are actively receiving services from state and federal vocational rehabilitation agencies.

The competitive employment rate for older workers showed that 33.5% were competitively employed, 2.9% were not competitively employed, and 63.6% of the cases were still open at the end FY 2009. For the purpose of this research question it is important to describe the employment status at closure for this age group. Of the 420 people, 36.5% were employed at closure, and 351 (26.6%) were employed without supports in an integrated setting. Thirty people (7.1%) were self-employed excluding placement into a Business Enterprise Program (BEP) and. Only 17 people (2.1%) gained employment with supports in an integrated setting, while 18 people (1.0%) were employed as homemakers and just one person (0.3%) was employed at a state agency-managed BEP. See Table 7.

Table 7

Competitive Employment at Closure

Variables	40-49		50-59		60-69		All Age Groups Combined	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Competitive Employment Rate								
Competitively Employed	27.9	107	28.9	111	43.8	168	33.5	386
Not Competitively Employed	2.1	8	2.9	11	3.6	14	2.9	33
Open Cases	70.1	269	68.2	262	52.6	202	63.6	733
Employment Status at Closure								
Employment w/o supports integrated setting	25.5	98	26.0	100	39.8	153	30.5	351
Extended employment	--	--	0.3	1	--	--	0.1	1
Self-employment (except BEP)	1.8	7	2.1	8	3.9	15	2.6	30
State Agency-managed Business Enterprise Program (BEP)	0.3	1	--	--	--	--	0.1	1
Homemaker	1.0	4	1.0	4	2.6	10	1.6	18
Unpaid Family Worker	--	--	0.5	2	--	--	0.2	2
Employed with Supports in Integrated Setting	1.3	5	2.1	8	1.0	4	1.5	17
Open Cases	70.1	269	68.0	261	52.6	202	63.5	732
Mean Weekly Earnings at Closure	\$337.10		\$411.25		\$438.55		\$402.76	
Mean Hours Worked in a Week at Closure	30.6		30.2		29.7		30.1	
Mean Length of Services (in Years)	1.5		1.3		1.1		1.2	

Note. Total Sample $N = 1,152$; each age group's $n = 384$.

Almost all of the study participants (99.4%) had their first closure in fiscal year 2009. The largest portion of the study participants (36.4%) exited with an employment outcome. The study also revealed that 19.1% of the sample had their cases closed for refusing services or further services. The financial figures for this group were quite varied. The weekly earnings for older workers at case closure ($n = 419$) ranged from \$0 to \$2,308 ($M = \$402.76$ and a $SD = \$332.00$). When examining the number of hours worked by older workers, again there was a wide distribution with total number of hours ranging from 0 to 80 hours per week ($M = 30.06$ and $SD = 12.8$). The length of time in services for the sample ($N = 1,152$) included $M = 1.30$ years and $SD = 1.5$ years.

CHAPTER 4

DISCUSSION

The results demonstrated that older workers and people with disabilities share a common bond in their reasons for employment and in the barriers they face when attempting to gain and keep employment. It is important that vocational rehabilitation professionals prepare to meet the demands older workers with disabilities will place on state-federal vocational agencies (Barros-Bailey et al., 2007). Exploring the demographics, typical vocational rehabilitation services, and competitive employment outcomes of older workers with disabilities can help guide vocational rehabilitation counselors toward using more appropriate services to reduce the length of time older workers receive services. With these considerations in mind, the purpose of this study was to explore the demographics of, typical vocational services provided to, and competitive employment outcomes for older workers stratified by age using the RSA-911 database for FY 2009. To date no research findings have been available for older workers beginning at 40 years of age and proceeding to study groups of older workers using intervals of 10 years for people up to 69 years of age with a focus on vocation rehabilitation services. This might be due to the many definitions of who is an older worker. This study's unique findings are discussed for each of three research questions in the following sections.

Research Question 1

The average age of the entire sample, including all three age groups, was 53.68 years of age. All of the age groups reported a mean age at the lower end of their 10 year intervals. These findings were consistent with pervious research that older workers are seeking vocational rehabilitation services (Wadsworth & Kempfe, 2004). Gender was equally distributed across all groups at a rate of (50.63%) male and (49.2%) female and conflicted with research by

Wadsworth et al. (2008) who reported (56%) of their sample's participants as female. A large number (67.3%) of the sample self-identified as White. African American's had a much lower representation (21.6%) for the overall sample and (15.6%) for the 60 to 69 age group. This finding was consistent with those of Cappella (2002) indicating that nearly 10 years later disparities remain in the provision of vocational services for minorities. Most of the sample (70.1%) was unemployed at the time of application, but the 40 to 49 age group had the largest number of unemployed (79.4%) cases. Because of the nature of the data, there was no way of knowing why this age group had a larger unemployment. Another interesting finding was that (57.3%) of the 60 to 69 age group were unemployed at application which again indicates that those 60 years of age and over are utilizing vocational services as a way to help them gain employment. .

The primary and secondary disabilities varied across the three age groups. Hearing loss or deafness was the primary disability (26.3%) identified for the 60 to 69 age group, and adjustment to disability should be addressed with this age group. The groups younger than 60 years of age reported a higher rate of primary and secondary disabilities associated with mental impairments, particularly psychosocial impairments (25.0%) for the 40 to 49 group and (22.4%) for the 50 to 59 age group. Another surprising finding of the study was the 40 to 49 and 50 to 59 age groups also reported physical disabilities associated with fatigue, weakness, pain, and respiratory disorders as their primary disability more often than the 60 to 69 age group. These conditions often affect instrumental activities of daily living (IADL) and activities of daily living (ADL). For example, the 50 to 59 age group had (20.6%) the highest rate of primary disabilities associated with mobility and dexterity, and (15.8%) the highest rate of secondary disabilities associated with physical impairments. This is important even though the disability is secondary

the impairment and functional limitations associated with them can all be factors that play into work related disabilities. The most interesting findings were associated with the 40 to 49 age group, (18.2%) of this age group reported physical impairments as their primary disability. This is important because the 40 to 49 age group is often not considered as representing the older worker. Ageism may be a barrier for this group as well. Mitchell et al. (2006) and Drebing et al. (2002) indicated that functional limitations have been occurring earlier than 60 years of age and are appearing more often for people under 50 years of age. The 40 to 49 group reported the highest rate (7.6%) of primary disabilities associated with cognitive impairments and a high rate (20.3%) of secondary disabilities related to psychosocial impairments.

The 60 to 69 and 50 to 59 age group reported personal income at a rate of (37.8%) as their primary source of income at application, while (37.8%) of the 40 to 49 age group and (35.7%) of the 50 to 59 age group indicated that their primary source of support was public support from SSI, SSDI, and TANF. Hayward and Schmidt-Davis (2005) showed that the receipt of SSI or SSDI was a barrier to employment for people with mental impairments. The present study also revealed that the primary disability for those 40 to 49 and 50 to 59 was mental impairments associated with psychosocial and other mental impairments which could account for the higher rates of public support for these two age groups. The 60 to 69 age group had the highest rate of employment at application (42.7%) which could account for this group's primary source of income coming from personal finances, but does not account for the 50 to 59 age group at the same percentage for personal income because only (25.8%) were employed at application.

Although most of the demographic variables were similar for all three age groups, the 60 to 69 age group had the highest level of education, (14.3%) percent had earned a Bachelor's degree, but the 40 to 49 age group had the lowest educational attainment with (6.3%) having

earned Bachelor's degree. These findings are important because level of education has been found to be a predictor of positive employment outcomes (Hayward & Schmidt-Davis, 2005; Wadsworth et al., 2008).

Research Question 2

Although the most common vocational rehabilitation service received for the entire group was assessment (55.6%), the 60 to 69 age group received vocational rehabilitation counseling and guidance (57.8%), information and referral (15.7%), and diagnosis and treatment (46.7%) at a much higher rate than the other two age groups. This was expected because this group reported the highest (26.3%) rate of primary disability associated with sensor acuity in particular hearing loss. The 40 to 49 group had the lowest (46.1%) for vocational rehabilitation counseling and guidance. This was unexpected considering that the RSA defines this service as counseling aimed to help an individual achieve employment, and includes vocational counseling, adjustment to disability, and counseling that focuses on family and social concerns (RSA, 2008) . Another interesting finding was that job search assistance (13.3%) and job placement assistance (18.0%) was provided at less than (19.05) for all three groups. These services are related to identifying appropriate job fits, enhancing interview skills, and networking with potential companies on the consumer's behalf (RSA, 2008). Many of the typical vocational rehabilitation services were received by less than 10% of the cases in all three age groups. Many of the typical vocational rehabilitation services were received by less than 10% of the cases in all three age groups. This was unexpected because many of these services would be beneficial considering the primary and secondary disabilities of the sample as well as the primary source of support at application. Many of the typical vocational rehabilitation services were received by less than 10% of the cases in all three age groups. This was unexpected because many of these services would be

beneficial considering the primary and secondary disabilities of the sample as well as the primary source of support at application.

Research Question 3

The most relevant findings were in the rate of competitive employment, (43.8%) of the 60 to 69 age group was competitively employed at closure. For the 40 to 49 age group, only (29.9%) were competitively employed at closure. The 50 to 59 age group had similar findings with (28.9%) being competitively employed at closure. These findings do not corroborate previous research (Cavanaugh & Roger, 2002; Drebing, 2002) in which older workers were less likely to be competitively employed than younger workers.

The weekly earnings at closure were also the highest for the 60 to 69 age group at \$438.55. This group also worked less hours during the week. This is consistent with the findings of Wadsworth et al. (2008) which found that income at application could be a predictor of weekly earnings at closure. This group also worked an average of 29.7 hours per week at closure. The average for weekly earnings at closure for the 40 to 49 group was \$337.10. This is nearly \$ 100.00 less than the 60 to 69 age group. This group also worked an average of 30.6 hours per week at closure. The 50 to 59 age group was closer to the 60 to 69 age group on earning by making \$411.25 per week, but they still worked an average of 30.2 hours per week at closure which is more than the 60 to 69 age group worked. The findings suggested that the 40 to 49 age group makes considerably less money during the week but works more hours than members of the other two age groups. Because the statistical analyses associated with the relationships between variables were not employed in this study, there was no way of knowing the true nature these outcomes differences.

The important findings for type of closure were once again associated with the 40 to 49 age group, 22.9% of this age group exited without an employment outcome, after receiving services. Furthermore, 26.0% of the 40 to 49 group exited without an employment outcome, after eligibility was determined, but before an IPE was signed, while only 17.7% of the 60 to 69 group exited for this reason. The 50 to 59 age group had the largest 17.7% of cases that exited as an applicant. The most surprising finding for the variable reason for closure was related to refused services or further services. The study showed that 20.6% of the 40 to 49 age group and the 50 to 59 age group refused services while only 16.1% of the 60 to 69 age group refused services, and 14.3% of the 40 to 49 age group were closed for failure to cooperate while only 6.8% of the 60 to 69 age group was closed for this reason.

Several factors from the three research questions such as level of education, primary source of support at application, and typical vocational services provided suggested that older workers 40 to 49 and 50 to 59 years of age are not benefiting from vocational rehabilitation services as it relates to competitive employment outcomes. Although the findings from the study indicated that these people were employed at closure 29.9% for the 40 to 49 age group and 31.8% for the 50 to 59 age group which was indicated by the reason for closure the 60 to 69 age group was still employed at closure at the rate of 47.4%. This case variable accounts for all individuals employed at closure not just those competitively employed. These findings are inconsistent with the findings of Cavenaugh and Rogers (2002) who found being younger to be positively associated with a competitive employment outcome. Additionally, the 60 to 69 age group had a shorter length of services $M = 1.14$ years, while the 40 to 49 age group had length of service $M = 1.46$ years and the 50 to 59 age group had $M = 1.28$ years.

Given these findings it appears that the 40 to 49 age group is receiving VR services that are usually found to be predictors of competitive employment outcomes at a lower rate. These findings support previous research that indicates that disabilities that are associated with functional limitations and disability that are normally associated with growing older are happening in this age group more often, particularly disabilities that are physical and have symptoms of fatigue, reduction in stamina, weakness, and pain. The 50 to 59 group showed more secondary disabilities associated with physical impairments but received services that would improve their quality of life less often than would be expected considering the nature of these disabilities. The aging workforce presents the potential for an increase of individuals seeking services from vocational rehabilitation professionals. The findings demonstrated that the 60 to 69 age group seeks the services of vocational rehabilitation agencies and achieve the primary goal of competitive employment.

Limitations

The major limitation for the study was the RSA-911 database for several reasons. First, the RSA-911 database is archival in nature this type of data sometimes lacks statistical reliability and validity and is outdated quickly (Kosiulek, 2005). Second, data on disability is recorded by the vocational rehabilitation counselor before eligibility is determined, and this could affect the number of primary and secondary disabilities reported with the general demographic data on open and closed cases as well as other data entry errors (Rosenthal et al., 2007). Finally, the RSA-911 database does not include information pertaining to consumers who have been unsuccessfully rehabilitated, and sometimes more than one version of the RSA-911 database is released each year resulting in different data sets (Wilson et al., 2002). Another limitation for this study was the use of descriptive statistics. Descriptive statistics are not adequate when large

numbers of variables are being analyzed, and they cannot be used to test for the significance of differences or relationships (Bluman, 2004).

Implication for Practice

The findings of this study suggest gaps between the three age groups exist. The most relevant gap with regard to the demographics is the disparity in the distribution of vocational rehabilitation consumers by race/ethnic status. Vocational rehabilitation counselors should continue to enhance their multicultural counseling skills as a way to establish a strong working alliance with minorities seeking vocational rehabilitation services.

Although vocational rehabilitation counselors' primary goal is to provide services that help the consumer achieve their employment goals, there are gaps in typical vocational services received by people 40 to 49 and 50 to 59 years of age. Vocational rehabilitation counselors can start by understanding the needs of older workers in the 40 to 49 and 50 to 59 age groups and can provide services as applicable through consumers' individualized employment plans. Those services are job search and job placement assistance, work readiness, vocational training, on-the-job-supports, and college and university training. The most important variable for older workers is the prevalence of age discrimination in today's labor market. By becoming more mindful that, according to ADEA, age discrimination begins at 40 years of age, not at 50 or 60 years of age and by taking a broader view of the barriers faced by older workers seeking employment, vocational rehabilitation counselors have the opportunity to advocate for consumers facing not only discrimination based on disability but discrimination based on other areas such as gender and race. This triple jeopardy discrimination situation makes these consumers more vulnerable to oppression and exclusion from the world of work and society as a whole. Finally, vocational rehabilitation counselors can enhance their knowledge of vocational counseling techniques and

services by attending local and national conferences focused on vocational rehabilitation and by reading up-to-date empirical research concerning these topics.

Recommendations for Future Research

Future research needs to include comparisons of demographics, typical vocational services provided, and competitive employment outcomes for consumers 40 to 49 and 50 to 59 years of age with those 60 to 69 years of age. This research could include logistic regression to provide information on categorical data such as demographics, vocational services provided, and competitive employment as well as the relationships between the categories (Bluman, 2004; Gravette & Wallnau, 1996). Research methods that utilize questionnaire/survey instruments could be used to facilitate the collection of relatively unexplored problems as they relate to the demographics, vocational services, and competitive employment outcomes for these three age groups. Finally, a qualitative interview-based study of consumers and vocational rehabilitation counselors at closure status could help generate a depth of understanding needed as to what services were beneficial to consumers and why.

Summary of the Study

The present study explored the demographic, typical vocational rehabilitation services, and competitive employment outcomes for older workers who are consumers of state-federal vocation rehabilitation agencies. Older workers 40 to 49 and 50 to 59 years of age were found to have self-identified primary disabilities associated with mental impairments, particularly psychosocial impairments and disabilities associated with physical impairments that affect mobility and dexterity as well as general physical impairments with symptoms of fatigue, weakness, and pain. Previous researchers (e.g., Kaye, 2002; Martin et al., 2009; Martin et al., 2010; Wadsworth & Kempfe, 2004) found that these factors affect participation in the labor

force and functional limitations have the potential to reduce the ability to carry out essential job functions. It is also important that vocation rehabilitation counselors understand the aspects of sensory disabilities, particularly deafness or loss of hearing, which was reported most often (26.3%) by the 60 to 69 age group and be prepared to address adjustment to this type of disability.

Although state-federal vocational agencies are mandated by state and federal policy and procedure vocational rehabilitation counselors should be mindful that each consumer has multiple aspects with regard to culture, disability, level of education, and work history. These aspects can potentially influence the typical vocational services provided and the coordination of services. In other words, it is important to take a holistic view of the consumer in order to expedite vocational services in a beneficial and timely manner for older workers.

In sum, considering the increasing number of older workers with disabilities, vocational rehabilitation counselors need to reevaluate how to meet older workers vocational needs based on, but not limited to, their values, interest, primary and secondary disability, level education, work history, and public supports. Vocational rehabilitation counselors need to be aware of all the variables associated with barriers to employment including, but not limited to, stigma, negative stereotypes, and discrimination on all levels. Vocational rehabilitation counselors need to reflect continuously on personal biases with regard to culture and age to prevent these biases from interfering with professional judgments with regard to vocational and referral services. By understanding the role of advocate and taking action on that philosophy, vocational rehabilitation counselors can play a powerful role in the fight against age discrimination in employment and minimized this barrier to inclusion in today's workforce. Finally, by providing vocational services that match the interests, values, and abilities of older workers vocational counselors can

enhance the quality of life and financial security of older workers with disabilities as a result of gaining employment.

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