


# The Importance of the Cognitive Aspects of Vocational Rehabilitation for Individuals With Multiple Sclerosis

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## Abstract

**Background:** Individuals with multiple sclerosis (MS) face symptoms that affect them physically and cognitively; 80% of individuals diagnosed with MS are out of work within 10 years, and 58% are unemployed. It appears that a diagnosis of MS creates a barrier to individuals obtaining and maintaining work. To combat this, vocational rehabilitation (VR) has been utilized by individuals with MS but with limited success. This may be due to the lack of interventions that address cognitive symptoms that occur. **Purpose:** The purpose of this perspective is to review the interaction between individuals with MS and the components of VR and discuss implications that could potentially increase the success of individuals with MS obtaining work. **Implications:** Approximately 48.1% of clients with MS receiving services from state VR agencies obtain or retain employment compared to 60% of clients with other diagnoses. This disparity highlights a disconnect in VR services. It has been seen that individuals with MS who were employed at application were more likely to receive services that include cognitive retraining-type services. Including more opportunities for cognitive retraining-type services may decrease this disparity and help more individuals with MS maintain or obtain work.

## Keywords

communication, medical decision making, access to care, healthcare, planning or policy, quality of life

Individuals with multiple sclerosis (MS) face a plethora of symptoms that affect them physically and cognitively. One major implication with a diagnosis of MS is the ability to remain in the workforce (1). To combat unemployment, vocational rehabilitation (VR) has been utilized by individuals with MS but with limited success (2). In this perspective, we will explore why there is a disparity in success in VR. Informed consent and ethical approval were not needed in the creation of this perspective.

## Overview of MS and Work

Multiple sclerosis is a chronic neurological disease which effects more than 2.1 million people worldwide (3). Typically, with the diagnosis of MS, a variety of somatic symptoms arise, such as muscle weakness, decreased or altered sensation, and intermittent pain. In conjunction with these somatic symptoms, cognitive impairments usually develop difficulties with attention, concentration, memory, judgment, and fatigue, which often go overlooked (4). With the onset of these symptoms, we see that unemployment becomes an issue; unemployment is reported to be between

50% and 80% within 10 years of being diagnosed with MS (1). Compared to 4.6% unemployment of people without a disability in 2016 (5), there is a disparity in employment between people with and without MS.

Multiple sclerosis typically onsets between the ages of 20 and 40, which is the primary age at which people are beginning or are steadily working in their careers (1). Individuals with MS report a higher quality of life, more effective social support, and better perceived health compared with unemployed individuals with MS reporting similar levels of disability (1). The inability to obtain or maintain work in this population may lead to increased secondary conditions such as decreased quality of life, isolation, and depression (6).

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## Cognitive Aspects of MS and Implications for VR

Vocational rehabilitation resources provide training, counseling, and assessment to best match an individual with an employer and work with the client to set goals aligned with their abilities and objectives (2). Chiu et al (2013) retrieved data from the Rehabilitation Services Administration 911 database to see what VR services affect the employment outcome of people with MS. Their study included 1920 clients using the full spectrum of services available. The results of the study found that 48.1% of clients with MS were able to obtain jobs after receiving VR services. Comparatively, people with traumatic brain injuries had an employment success rate of 49%, people with sensory/communicative disabilities had a 75% success rate, people with physical disabilities had a 56% success rate, and the overall success rate for VR clients was 62%. There is a clear disparity between clients with MS and clients with other disabilities obtaining employment with use of VR services. For clients with MS, VR may not be considering some symptoms in respect to the more widely known impairments that may arise with MS.

Cognitive impairment is estimated to affect somewhere between 43% and 70% of total MS patients (7). Aspects of cognition like attention, information processing, multitasking, and concentration are all critical components to maintaining employment (1). Even if the physical symptoms are managed, an individual with MS may not be able to work effectively with impaired cognitive functions (1). Several forms of cognitive rehabilitation exist and have been studied to examine their effectiveness, ranging from improving executive functions (4) to attempting to improve fatigue through cognitive behavioral therapy (3). However, cognitive aspects of rehabilitation may not be salient to professionals or individuals with MS (8). Because of this perspective, VR services may not be incorporating aspects of cognitive rehabilitation in their suite services to clients who have MS.

Cognitive impairments and associated disability typically predate physical limitations and can be difficult to assess; however, it is associated with adverse effects to quality of life (9). Given that cognitive function and mental ability are 2 key aspects of gaining and maintaining employment, there should be a greater emphasis placed on aspects of cognitive rehabilitation when individualizing VR services for individuals with MS (1). Researchers have begun noticing the disparity between their success in VR compared to individuals with other disabilities using the services. Tansey et al (2015) investigated whether the employment status of applicants with MS who were seeking services from state VR agencies could be classified based on the type of services provided, using data from the US Department of Education Rehabilitation Services Administration's RSA-911 database.

A discriminant analysis was used to determine differential services received by employed and unemployed applicants with MS. They found that individuals with MS who were able to obtain employment were more likely to receive

services geared toward career stabilization; the unemployed applicant group had a higher propensity to receive services focused on job placement. Services geared toward career stabilization included assistive technology/accommodation services, counseling and guidance, and cognitive rehabilitation services. Job placement services included job readiness and job seeking type services. It appears that services geared toward career stabilization involved methods that included and reinforced cognitive rehabilitation, whereas specific job placement services did not. Tansey et al (2015) showed that success of VR for individuals with MS may be linked to the type of services used in VR and that simply receiving VR services may not be enough.

## Implications and Conclusion

Discourse surrounding MS and work is of growing importance and the research is beginning to highlight ways to improve success acquisition and maintenance of work for individuals with MS (2,7–10). However, there seems to be less being done as far as awareness of the importance of addressing the array of cognitive symptoms that arise with MS, and how that may be linked to the effectiveness of VR. Health-care providers can play a pivotal role during the onset of MS by addressing cognitive symptoms through recommendations or referrals for cognitive rehabilitation type services in conjunction to the traditional recommendations for physical rehabilitation and medications. Professionals who work for state agencies could also recommend services that are geared toward career stabilization if they notice a disparity when customizing VR services.

In conclusion, approximately 60% of individuals receiving these services from state VR agencies obtain or retain employment compared to 48.1% of clients with MS who were able to obtain jobs after receiving VR services (2). This disparity highlights a disconnect in VR services. It has been seen that individuals with MS who were employed at application were more likely to receive services that include cognitive retraining-type services. Including more opportunities for cognitive retraining-type services may decrease this disparity and help more individuals with MS maintain or obtain work. As research continues to clearly highlight what is needed to continue to improve the attainment and retainment of work for individuals with MS, advocacy is needed to increase awareness of the cognitive rehabilitative services and their importance.

## Declaration of Conflicting Interests


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**Winston Kennedy** is a PhD candidate in kinesiology. He is also a licensed Physical Therapist and Public Health Professional. His research focuses on how to support the accessibility and inclusion of people with disabilities in society.

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