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Vocational Counselor Credentials and Case Closures for Consumers With Co-Occurring Substance Use Disorders

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Vocational Counselor Credentials and Case Closures for Consumers With Co-Occurring Substance Use Disorders

by

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Abstract

Copious studies have collected data on issues regarding employment among persons with a disability (consumers) and a co-occurring chemical dependency. However, more research needs to be conducted which focuses on the services provided to this specific population in regard to employment, specifically vocational rehabilitation counseling. This study examined whether master's level rehabilitation counselors are being trained to effectively assist consumers with co-occurring substance use disorders. Study participants included master's level rehabilitation counselors working for Minnesota Vocational Rehabilitation Services (VRS) who were credentialed as Certified Rehabilitation Counselors (CRC), CRC and Licensed Alcohol and Drug Counselors (LADC), have no credentials or have obtained a master's degree in a related field with no credentials. It was hypothesized vocational rehabilitation counselors will complete a greater number of successful case closures if they are both CRC and LADC. Results indicated no significant differences between counselor credentials and case closures. Data from this study revealed that approximately one in five, or 19.4%, of all consumers served among the analyzed caseloads, had either a SUD diagnosis or undiagnosed chemical dependency, indicating a need for competency in addictions. Ninety-five percent of counselors indicated that rehabilitation counselors should addiction trainings in their graduate programs. A visible trend was identified in the distribution of case closures and CRC credentials. The presence of a CRC credential, either current, lapsed or combined with another credential, increased the number of case closures counselors had obtained. This study was limited by sample size. Future research

should measure a larger group of counselors in order to ensure a representative sample which includes LADC credentialed rehabilitation counselors.

Keywords: Substance use disorder, co-occurring, addiction, rehabilitation, competency

“You were sick, but now you’re well again, and there’s work to do.”

Kurt Vonnegut-

Thank you to everyone who helped me complete this project. I could not have done it without you.

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Chapter I: Statement of Problem

In 2012, the Minnesota Department of Employment and Economic Development issued a report to the Legislature that revealed there are over 320,600 Minnesotans, above the age of 16, living with serious mental illness (Minnesota Department of Employment and Economic Development, 2012). According to a 2010 report by the National Alliance on Mental Illness (NAMI), approximately 50% of consumers with severe mental disorders are impacted by a co-occurring substance use disorder (SUD) (NAMI, 2010). This translates into an estimated 160,300 Minnesotans living with a co-occurring mental illness and SUD. In the United States, mental illness is the leading cause of disability for persons of working age (World Health Organization, 2008) and results in $57.5 billion annually in economic losses (Insel, 2008). People with mental illness have been identified as having the lowest rates of workforce participation when compared to any other disability (Rehabilitation Research and Training Center on Disability Demographics and Statistics, 2006) and participation decreases further with the addition of a comorbid chemical dependency (Drake, O'Neal & Wallach, 2008).

Consumers with chemical dependency can succeed in employment but they often need services to support them. A 2009 study of Integrated Dual Diagnosis Treatment programs found consumers who have a "diagnosis of substance abuse are 68% less likely to be referred to Supported Employment services" (Biegel, Beimers, Stevenson, Ronis & Boyle, 2009, p. 435). Research has demonstrated that the presence of chemical dependency has been used in the vocational rehabilitation system to reject consumers for services (Bond & Drake, 2008). In order to maximize vocational opportunities for consumers with a co-occurring SUD,

systematic changes need to be made which address the barriers interfering with referral to supported employment. Some of these changes include educating clinicians on the effectiveness of supported employment for persons with dual diagnosis, even when they are actively using (Mueser, Drake, & Campbell, 2011). Professional training improves the attitudes of rehabilitation counselors (West & Miller, 1999) and should enhance their skills to effectively assist dual diagnosis. It is currently not required that a qualified rehabilitation counselor receives the rigorous training necessary to work with consumers with co-occurring chemical dependency.

Mental illnesses often co-occur with chemical dependency or may develop through excessive substance abuse (Doughty & Hunt, 1999; Li & Moore, 2001). The National Comorbidity Study estimates approximately "51% of those with a lifetime occurrence of a mental disorder reported a lifetime occurrence of at least one additive disorder" (Biegel et al., 2009, p. 427) compared to 17% of the general population (Frounfelker, Wilkniss, Devitt, Bond, & Drake, 2011). Evidence indicates depression and other mental disorder symptomatology are exacerbated by chemical dependency (Cheng & McBride, 2013; Doughty & Hunt, 1999). Additionally, consumers often experience legal and medical problems related to their SUD, increasing fear, frustration and emotional stress (Rogers et al., 2011). Effective interventions for consumers with dual diagnosis are a collaboration of integrated treatment approaches which include employment (Slayter, 2010). Targeted job accommodations such as flexible scheduling, frequent breaks, job restructuring, using positive reinforcement, utilizing organization tools and providing frequent on-the-job supports may all improve a consumer with co-occurring SUD's job performance (Batiste, 2005a, 2005b).

Being employed contributes to the treatment of persons with dual diagnosis by providing "financial, social, structural, moral and personal benefits" (Strickler, Whitley, Becker, & Drake, 2009, p. 266). Individuals with co-occurring disorders gain confidence through employment, increase their self-esteem, develop effective coping strategies for psychiatric symptoms and decrease substance use (Bond et al., 2001). Consumers also "gain confidence with their ability to recover and to meet their daily living needs when they experience incremental successes, such as becoming employed" (Biegel, Stevenson, Beimers, Ronis & Boyle, 2010, p. 191). Employment is influential for recovery and has been shown to promote social inclusion for those with dual diagnosis (Harris, Matthews, Penrose-Wall, Alam & Jaworski, 2014). Vocational intervention may also provide needed emotional regulation for successful employment outcomes and decrease impulsivity in consumers with co-occurring chemical dependency (Matthews, Harris, Jaworski, Alam & Bozdag, 2013).

Chemical dependency does not inhibit a consumer from being successfully employed. "Several studies have found that substance use disorders are not predictive of work outcomes in consumers with severe mental illness participating in a variety of different vocational rehabilitation programs" (Mueser et al., 2011, p. 91). In fact, consumers with co-occurring chemical dependency may have developed additional social skills through their using which will help them adapt to diverse employment situations (Becker, Drake & Naughton, 2005). Regardless, it has been documented consumers with co-occurring SUD have higher rates of unemployment than those with mental illness alone (Harris et al., 2014) along with fewer experiences working (Biegel et al., 2010).

Substance use is not the barrier to successful employment for persons with co-occurring SUD (Mueser et al., 2011), but it is the barrier to referral to supported employment. Referral may be affected by factors such as lack of consistent work in competitive employment (Schutt & Hursh, 2009), vocational services which are not consistent with evidence based employment (Strickler et al., 2009), and an absence of training which addresses stigma in relation to consumers with SUDs (Moore, 2012). Stigma has been implicated as a factor in low service quality and the inadequate funding for research and treatment with schizophrenia, depression and alcohol dependence (Pescosolido et al., 2010). Socially constructed labels may evoke stereotypes of consumers which present them as unpredictable, dangerous, irresponsible or at fault for their chemical dependency (Glass, Kristjansson & Bucholz, 2013). For already marginalized communities, such as persons with mental illness, the additional stigma related to chemical dependency may aggravate symptoms and increase fear of rejection. Persons who acquire stigmatized conditions, like mental illness and SUDs, have lower levels of self-efficacy, self-esteem, general well-being, job market participation and earnings (Glass, Mowbray, Link, Kristjansson, & Bucholz, 2013).

Despite stigma, SUDs may create functional limitations which make a consumer appear unemployable. “In the workplace, individuals with substance abuse disorders often exhibit difficulties with attendance, concentration, staying organized, meeting deadlines, handling stress, and maintaining stamina during the workday” (Bastiste, 2005a as cited in Walls, Batiste, Moore & Loy, 2009, p. 36). It is currently not required for employers to accommodate SUDs under the ADA nor should employers be expected to tolerate active using while a consumer is on-the-job (Koch, 1999). However, if a present SUD is not an

accurate predictor of successful employment (Mueser et al., 2011), can agencies, such as VR, improve support to ensure consumers with co-occurring addiction are receiving the services they require?

In 2004, it was estimated that VRS served as many as 35, 473 consumers with a primary disability of SUD alone (Walls et al., 2009). Compounded with those who have a secondary co-occurring addiction, the number could be as high 25% of all consumers (RRTC, 2004). Of the 35,473 consumers with a primary SUD in 2004, 51% were not successfully rehabilitated according the Job Accommodation Network (JAN) database. A 3-year analysis (1996, 2000, 2004) of JAN data revealed that the absence of Job Finding Services and Job Placement Services were the most common predictor of unsuccessful rehabilitation cases (Walls et al., 2009). Training vocational rehabilitation counselors may decrease internalized misconceptions on substance abuse (West & Miller, 1999), educate future professionals on essential rehabilitation services (Walls et al., 2009) and identify potential barriers for employment created by the presence of an addiction such as emotional barriers, program barriers, societal barriers and employer bias (Platt, 1995).

To address the issue of unemployment rates among consumers with co-occurring chemical dependency, systemic changes need to be made which improve the services provided to this population. Rehabilitation counselors working for State Vocational Rehabilitation Services should have professional training and development in substance use treatment. A thorough analysis of existing research on this issue was used to formulate the research question of, “do master’s level rehabilitation counselors who are credentialed as Certified Rehabilitation Counselors and Licensed Alcohol and Drug Counselors complete

more successful case closures than counselors with only a CRC or have no certifications?" It was hypothesized rehabilitation counselors would have a greater number of successful case closures if they are also trained as Licensed Alcohol and Drug Counselors. This study collected data from rehabilitation counselors working for Vocational Rehabilitation Services in the state of Minnesota.

Operational Definitions

Minnesota Vocational Rehabilitation Services. Minnesota Vocational Rehabilitation Services (VRS) provides counseling, training, job skills and placement services to persons with disabilities either returning to work or seeking employment for the first time. Consumers are eligible for services if they receive Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) however, persons with the most severe disabilities receive services first. VRS consists of 10 program directors, 22 rehabilitation area managers, 27 rehabilitation specialists, 156 rehabilitation counselors, 5 rehabilitation representatives, 21 job placement specialists and 75 vocational rehabilitation technicians. VRS anticipated serving approximately 18,620 consumers in FFY 2014 with an average caseload of 77 consumers per counselor (Minnesota Department of Employment and Economic Development, 2014a).

Rehabilitation counselors. Rehabilitation counselors working for Minnesota VRS have a Master's degree in Rehabilitation Counseling or a degree in a closely related field with evidence of completion of graduate level coursework in counseling theories/techniques. Counselors selected for this study will have worked for state VRS for at least 12 months. (Minnesota Department of Employment and Economic Development, 2014b).

Successful case closure. The Minnesota Department of Employment and Economic Development describes successful employment as meeting the terms decided upon in a consumer's Individualized Employment Plan (IEP). Employment should be consistent with consumer's "strengths, resources, priorities, concerns, abilities, capabilities, interests and informed choice" (Minnesota Department of Employment and Economic Development, 2011). When employment has been successfully completed for 90 days, a consumer's case is closed and considered successfully rehabilitated (26 Closure). This also includes an agreement between a consumer and their VR counselor that the consumer is satisfied with their employment and that they are performing well (Minnesota Department of Employment and Economic Development, 2011).

Dual diagnosis, co-occurring disorder, comorbidity. The terms dual diagnosis, co-occurring disorder and comorbidity are used synonymously in reference to persons with disabilities who have a primary or secondary diagnoses of a substance use disorder.

Chapter II: Background

The aim of this review is to analyze current research concerning substance use comorbidity and to detail the dimensions of disability and co-occurring SUD in regard to vocational outcomes. This review will focus primarily on the components of substance use comorbidity among persons with mental illness, and will include information regarding legislation, policy, treatment options and employment concerns for this specific population. It will also elaborate on current training procedures suggested for counselors who will be interacting with consumers with comorbid SUDs and discuss comorbid substance use prevalence among consumers with other disabilities.

Legislation and Policy

Legislation on working with consumers with co-occurring addiction has been inconsistent, unclear and complex. Koch (1999) conducted a review of legislation regarding this population and interpreted policies in terms of rehabilitation counseling. For rehabilitation counselors, interpretation of legislations is "influenced by their own attitudes and education in addition to being affected by other social forces when interpreting and applying legislative mandates" (Koch, 1999, p. 29). Therefore, the social and cultural framework under which a rehabilitation counselor is located may perpetuate conscious and unconscious stigma or misperceptions regarding persons with addiction. Negative attitudes or beliefs about persons with addictions may develop into actual discrimination or perceived discrimination by a consumer and should be acknowledged by the counselor.

Unclear policies regarding consumers with disabilities in two primary pieces of legislation, the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA),

have likely shaped the viewpoints of practitioners within the field. Under the Rehabilitation Act of 1973, alcohol and other drug abuse was not specifically included under Section 504 and the interpretation of this mandate was vague. Goff (1993) noted that the Rehabilitation Act Amendments of 1992 explicitly included SUDs under the category of disability (as cited in Koch, 1999). Two stipulations remained for consumers with SUDs in federal employment: 1) consumers were not covered if their current drug use interfered with job performance; 2) SUDs were not covered if the consumer was considered a threat to themselves or others (Koch, 1999).

The passage of the ADA in 1990 extended employment protection (Title I) to the entire public and private workforce. As noted by Beck and Turley (1992), "all otherwise qualified individuals with alcohol and other drug (AODA) disabilities are now eligible for protection against disability based employment discrimination as long as they meet eligibility requirements of the ADA for coverage" (as cited in Koch, 1999, p. 30). To be covered, consumers need either a history of AODA impairment or a recent AODA diagnosis (Koch, 1999). However, "the ADA states specifically that any person who is engaged in the illegal use of drugs is not considered to be a qualified individual with a disability and is not eligible for protection from employment discrimination" (Koch, 1999, p. 30). Henderson (1991) and Robinson (1991) explained that although current illegal drug use excludes consumers actively using, current alcohol use only becomes exclusionary when it occurs in the workplace or impedes work performance (as cited in Koch, 1999). The language used within the ADA clearly differentiates alcohol use as acceptable and illegal drug use as intolerable, reinforcing misconceptions about addiction and perpetuating negative attitudes towards addicts. The Drug

Free Workplace Act of 1988 is another piece of legislation which impacts consumers with co-occurring disorders. As elucidated by Shaw, MacGillis and Dvorchik (1995), this legislation allows employers to create policies which restrict chemical use at the workplace and working while under the influence (as cited in Koch, 1999).

Rehabilitation counselors can assist consumers with co-occurring addictions by advocating to employers for reasonable accommodations which support recovery and successful employment. Shaw, MacGillis and Dvorchik (1995) suggest "access to employee assistance programs, inpatient treatment, use of leave and flexible work hours, and job restructuring" as potential accommodations for this population (as cited in Koch, 1999, p. 31). Job restructuring and flexible hours are particularly useful in allowing consumers to attend aftercare, AA or recovery based meetings and relapse prevention programs. Rehabilitation counselors need to be aware of relapse as a part of recovery and be prepared to educate employers on the relapse process. The possibility of relapse generates an atmosphere of uncertainty for employers and rehabilitation counselors. Legal cases, such as Altman vs. New York City Health and Hospitals Corporation (1995), have interpreted how employers can legally respond to relapse. In this case, after a physician relapsed,

> as noted by Koch (1999) he was no longer afforded protection as a person with a disability due to the: (a) inability of the employer to come up with a satisfactory accommodation which would protect patients and the hospital itself from the effects of potential relapse and (b) nature of his job. (p. 32)

Other notable cases (as cited in Koch, 1999) include Judice vs. Hospital Services (1996) which permitted the employer to continually monitor an employee's recovery, Fuller vs. Frank (1990) which ruled that an employer only had to accommodate relapse impacted work performance incidences a limited number of times, and Maddox vs. University of

Tennessee (1995) which permits employers to terminate employees based on chemically induced incidents which occur outside of the workplace, such as driving under the influence or driving while intoxicated (as cited in Koch, 1999).

State VR agencies report large variability in the incidence rate of SUDs as either a primary or secondary diagnosis. Moore, McAweeney, Keferl, Glenn, and Ford (2008) hypothesized that VR agency policies and counselor attitudes regarding working with consumers with co-occurring SUDs would impact the recorded incidence rate of this population within VR. To further explore this, Moore et al. (2008) developed a policy related survey for all VR directors and rehabilitation counselors to determine why incidence rates of SUD vary between states. Managers and counselors from two state VR agencies and 8 VR directors from select states were also asked to participate in focus groups to determine issues which may arise from VR policies that affect reported SUD incidence rates. Issues determined by the focus groups were then compiled into a survey which was distributed to all VRS program directors as well as VR counselors in the states of Illinois and Ohio. Policy issues addressed within the survey included: order of selection; sobriety waiting periods; specialized versus general VR counselor caseloads; perception of current and future prevalence of SUD; practices and policies regarding screening for or identifying SUD; perceived success rates for addressing SUD in VR (Moore et al., 2008). Administrators from 42 states responded to the survey. In general, results indicated a wide variation in policies regarding SUD. “There are observed variations in order of selection, written substance abuse policies, sobriety waiting periods, screening practices and specialized SUD counselor caseloads” (Moore et al., 2008, p. 16). Within VRS administrators, 45% predicted in increase in SUD prevalence rates among

VRS consumers (Moore et al., 2008). Seventy-nine percent of counselor respondents predicted SUDs in their caseload to either increase or stay the same (Moore et al., 2008). Eighteen percent of administrative respondents reported a formal sobriety-waiting period policy with an additional 20% of respondents reporting an informal sobriety-waiting period (Moore et al., 2008). Sobriety-waiting period policies typically require a consumer to be sober a minimum of 60-90 days before they are eligible for services, however, a delay in VR services "may actually exacerbate or prolong life stressors, which may contribute to an increased difficulty in attaining and maintaining sobriety" (Moore et al., 2008, p. 16). The number of SUD specialized rehabilitation counselors also varied greatly. Of the 42 states represented, only 10 (Arkansas, Delaware, Virginia, Texas, Kentucky, Michigan, Alaska, Pennsylvania, Utah, North Dakota) indicated specialized SUD counselors. Fifty-nine percent of administrative respondents indicated they would utilize an SUD screening tool that was low-cost, reliable and valid (Moore et al., 2008). As Christensen, Boisse, Sanchez, and Friedman (2004) had previously indicated, rehabilitation counselors would be effective in administering screening and brief interventions (SBI) to consumers with relatively short and inexpensive training. Unfortunately, 28% of administrators were unsure if they would utilize such an SUD screening tool and 10.3% would not use a screening tool (Moore et al., 2008). The discrepancies in administrator responses and the variations in state agency policies indicate a lack of consensus within VRS regarding working with consumers with both secondary and primary SUDs.

Comorbidity and Mental Illness

In the article *Comorbidity: What Have We Learned and Where Are We Going?*, Mueser and Drake (2007) addressed three areas of focus regarding this population; current research, why comorbidity is important, and suggestions for future research and treatment practices. Research reveals that "no single explanation can account for the increased comorbidity between any two disorders" (Mueser & Drake, 2007, p. 65) but having one disorder increases the likelihood of developing another (Mueser & Drake, 2007). The author's suggested socioenvironmental and secondary problems associated with comorbidity.

Consumers develop SUDs for a plethora of reasons. Li and Moore (2001) proposed that entitlement, perceived discrimination and an inability to accept disability are major factors in consumers developing SUDs. By applying labeling theory to previous research, Li and Moore (2001) elucidated disability as a deviant condition and illicit drug use as a deviant behavior. Discrimination is placed on persons with disabilities due to their deviance from the norm which increases the likelihood that they will engage in secondary deviant behavior, such as using illegal drugs (Li & Moore, 2001). In this study, researchers examined individual's reactions to their disabilities, individual's demographic characteristics and disability onset, in relation to their chemical use. A total of 1,876 consumers, one-third of those randomly selected from the Ohio Rehabilitation Services Commission, Michigan Rehabilitation Services and Illinois Department of Rehabilitation Services databases, completed the Medication and Other Drug Use Survey by mail. Data from this study revealed that illegal chemical use is related to how well an individual accepts their disability (Li & Moore, 2001). The researchers of this study found that "an individual's disability acceptance is closely

related to his or her perceptions of societal responses to disability, and disability acceptance is negatively related to the attitudes that persons with disabilities are entitled to use drugs (Li & Moore, 2001, p. 16).

Perception of discrimination towards disability decreased an individual's likelihood of disability acceptance (Li & Moore, 2001). Greater income and education status were found to be associated with decreased perceptions of societal discrimination and increased levels of disability acceptance (Li & Moore, 2001). Disability onset, whether acquired or congenital, did not affect chemical use. However, more severe disability was correlated with greater illicit drug use (Li & Moore, 2001). The authors identified family and societal enablement of persons with disabilities to engage in illegal drug use as another factor contributing to use within this population (Li & Moore, 2001). It was noted that substance use disrupts the rehabilitation process, undermines self-esteem and inhibits necessary social integration (Li & Moore, 2001).

A critical review of literature by Sheidow, McCart, Zajac, and Davis (2012) on comorbidity among emerging adults with mental illness and SUD found SUDs increase in likelihood if a person has a mental illness. Comorbidity of mental illness with a SUD increases functional impairments which can be detrimental to the development of a young adult with mental illness (Sheidow et al., 2012). Approximately "36% of all adults with co-occurring serious mental health conditions and substance use disorders are ages 18-25 years" (Shediow et al., 2012, p. 237). They identified young adults with mental illness transitioning into adulthood to be at greater risk for developing a SUD and have educational, vocational, legal and social ramifications (Sheidow et al., 2012). The authors suggest integrative

treatment programs which address the educational and vocational needs of this population (Sheidow et al., 2012).

Multiple mental illness diagnoses have a documented association with alcohol and other drug abuse. In their article *Counseling Client with Dual Disorders: Information for Rehabilitation Counselors,* Doughty and Hunt (1999) describe the occurrence of SUD coexisting within anxiety disorders, depression, psychotic disorders and personality disorders. For the purposes of their article, dual disorder referred to two separate but interrelated disorders; a mental illness diagnosis and a chemical dependency diagnosis. For rehabilitation counselors, whichever diagnosis within the dual disorder is primary or secondary may determine how the counselor proceeds with techniques or interventions. However, as noted by Daley, Moss, and Campbell (1993), dual disorders as so interrelated that "the symptoms of a client's psychiatric disorder may also 'mask' the symptomatology of their substance dependence (or vice versa) or exacerbate their symptoms" (as cited in Doughty & Hunt, 1999, p. 4). This is best represented in depression and anxiety. Miller (1997) found up to 98% of individuals with SUD also have depression, making it difficult to distinguish the nature of symptomatology for each diagnosis (as cited in Doughty & Hunt, 1999). Romach and Doumani (1998) found substance use to reduce anxiety initially, though Kranzler and Liebowitz (1988) reported increased levels of anxiety after a period of sustained chemical use (as cited in Doughty and Hunt, 1999). A study by Ross, Glaser, and Germanson (1988) found that over half of patients in a substance treatment program reported their anxiety disorder began after substance abuse occurred. Thirty-eight percent of patients reported that their substance abuse began after contracting anxious symptomatology (as cited in Doughty &

Hunt, 1999). Antisocial personality disorder and borderline personality disorder have also been found to be commonly linked with SUD. Hesselbrock, Meyer, and Keener (1985) reported that, "83.6% of individuals with antisocial personality disorder met the criteria for substance dependence" (as cited in Doughty & Hunt, 1999, p. 5). Daley et al. (1993) found as many as 43% of individuals with borderline personality disorder also have an SUD (as cited in Doughty & Hunt, 1999). In the same vein, it is estimated almost half of individuals with schizophrenia have an SUD (Doughty & Hunt, 1999).

Comorbidity Intervention

Counseling. Counseling, as treatment, has been a primary means of addressing individuals with an SUD. Integrative treatment combines factors from both mental health counseling and substance abuse counseling in order to address all symptoms related to this comorbidity. In a study by Wüsthoff, Waal, and Grawe (2014) integrative treatment was investigated to determine its effectiveness on patients with anxiety and depression with a co-occurring chemical dependency. Five Community Mental Health Centers in Norway were selected to participate in this study with the goal of highlighting the need for the treatment of comorbidity through "comprehensive and assertive" models such as Motivational Interviewing and Cognitive Behavioral Therapy, with a long-term perspective in mind (Wüsthoff et al., 2014). Of the 76 patients involved in the study, it was found that interventions involving Motivational Interviewing induced positive changes in patients' mental health and improved motivation to discontinue addictive behaviors (Wüsthoff et al., 2014). Rehabilitation counselors trained in Motivational Interviewing will have learned skills

to create a greater impact with consumers they are working with who have a co-occurring SUD.

Supported employment. Employment has been found to promote recovery in consumers with SUD (SOURCE) Supported employment, in particular, has rapidly become an evidence-based practice for a variety of disability populations (Bond, Drake, & Becker, 2008; Corrigan, Mueser, Bond, Drake, & Solomon, 2008). Individual Placement and Support (IPS) has been adopted by VRS agencies as a method for delivering supported employment. IPS is based around eight core principles for delivering service: 1) focus on competitive employment; 2) eligibility based on client choice; 3) integration of rehabilitation and mental health services; 4) attention to work preferences; 5) personalized benefits counseling; 6) rapid job search; 7) systematic job development; 8) time-unlimited and individualized support (Dartmouth Psychiatric Research Center, 2014). Bond, Drake, and Becker (2012) have found that "IPS services produced significantly higher competitive employment outcomes and higher program retention rates than other interventions" (as cited in Larson, Sheehan, Ryan, Lemp, & Drandorff, 2014, p. 226). IPS supported employment has developed into an evidence-based method of providing supported employment, primarily to consumers with psychiatric disabilities (Corrigan et al., 2008).

Larson et al. (2014) investigated IPS from the perspective of practitioners to further understand training needs and skill-building necessary for effective IPS service. Sixty-seven employment practitioners from across the United States were asked to complete an online survey comprised of 12 open-ended questions about IPS implementation. Participants were selected from IPS programs based on fidelity scores through the Dartmouth IPS Supported

Employment Center. A predominate theme within responses revealed that practitioners view IPS management and implementation as complex (Larson et al., 2014). “Effective professionals persistently and systematically develop job opportunities for clients, using strong interpersonal skills, optimism, patience and flexibility” (Larson et al., 2014, p. 232). Other themes uncovered were collaboration with clients, an expression of optimism in their vocational potential, and the promotion of empowerment and self-determination (Larson et al., 2014). IPS is designed primarily for consumers with severe and persistent mental illness and “does not exclude people on the basis of diagnosis, symptoms, or substance misuse” (Rinaldi, Miller, & Perkins, 2010, p. 164), a key factor for VRS agencies operating under policies which may exclude consumers from participating in services when actively using (Moore et al., 2008). It can be asserted that consumers with psychiatric disabilities and co-occurring SUDs may benefit from participation in supported employment.

Marshall et al. (2014) conducted an extensive literature review on articles published between 1995 and 2014 from seven major databases. The primary objective of this study was to analyze evidence regarding the effectiveness of supported employment for consumers with mental disorders or co-occurring mental and chemical dependency (Marshall et al., 2014). The review of literature pertaining to supportive employment “found a high level of evidence for the effectiveness of supported employment” (Marshall et al., 2014, p. 21). In comparison to control conditions, supported employment, specifically the IPS model, demonstrated higher rates of competitive employment, more hours worked, more weeks worked per year, higher wages and fewer days until the first competitive job (Marshall et al., 2014). The researchers found that “there is strong evidence supporting the effectiveness of individual elements of the

model, such as integration of vocational and mental health services" (Marshall et al., 2014, p. 21).

In an effort to add existing literature to employment in the recovery process for consumers with serious mental illness, Dunn, Wewiorski, and Rogers (2008) collected qualitative data through interviews with 23 individuals to measure the benefits of employment on quality of life for this population. Interviews were collected and transcribed verbatim by researchers and participants were asked about their recovery across nine essential life domains. Two predominant themes uncovered were that meaning was generated through work and employment facilitated recovery (Dunn et al., 2008). Work provided consumers with stability through routine and developed self-efficacy through the daily affirmations typically associated with the workplace. The financial implications of employment were also a central determining factor of the subjects' quality of life ratings. An increase in capital provided subjects' with greater personal autonomy and the ability to become providers for their families. Financial independence "contributed to a recovery-promoting sense of pride and accomplishment" (Dunn et al., 2008, p. 61), demonstrating yet another benefit of employment as treatment.

Screening and brief intervention. VR counselors are in a unique position to detect undiagnosed SUD and chemical abuse in consumers. "Vocational rehabilitation counselors are front line workers who can reduce the harm caused by alcohol and drugs through screening, assessment, referral, and brief intervention" (Christensen et al., 2004, p. 59). VR counselors continually meet with the same consumers for long periods of time and may have an objective perspective on how chemical use is impacting their lives. VR counselors who

screen and assess consumers may detect chemical abuse and prevent the further development of an SUD (Galvin as cited in Christensen et al., 2004).

Working with rehabilitation counselors from within the Massachusetts Rehabilitation Commission (MRC), Christensen et al., developed substance abuse screening, assessment and brief intervention (SABI) workshops to increase the level of competency of SABI knowledge and practice in vocational rehabilitation. A collaboration of faculty, from the Interdisciplinary Faculty Learning Group (IFLG), and researchers, created and facilitated 5, 6 hour-long, training programs to 82 MRC counselors. IFLG members cultivated expertise in SABI application in order to provide effective training. Pre and post-test measures were taken before and immediately after the workshops using the Alcohol and Other Drugs Vocational Rehabilitation Counselor Survey (AOD-VRC). Counselor's knowledge of SABI practices increased significantly after participating in one of the workshops (Christensen et al., 2004). A 4-month follow-up of 45 of the original 82 counselors revealed scores continued to remain higher on the AOD-VRC than pre-workshop measures (Christensen et al., 2004). The most common barrier, identified by counselors, to applying SABI into practice with consumers was a noncompliance to referral appointments (Christensen et al., 2004). This research indicates that a relatively short, 6-hour-long, training would be effective in increasing rehabilitation counselor's ability to screen, assess and refer consumers with co-occurring addiction.

To further explore the implementation of substance abuse screening in VRS agencies, Glenn and Keferl (2008) trained 464 VRS counselors from 3 states in administering the Substance Abuse in Vocational Rehabilitation-Screening (SAVR-S) to consumers. Researchers provided a 1-day training along with pre-and post- workshop questionnaires to

measure counselors' self-efficacy in providing substance abuse screening. Results indicated that "rehabilitation counselors do not perceive themselves as being fully prepared to screen for substance us problems" (Glenn & Keferl, 2008, p. 40). Counselors reported that while questions regarding mental health were common during the intake and assessment of a consumer, substance use was only occasionally addressed (Glenn & Keferl, 2008). Another common theme in survey responses was a lack of knowledge about policies on serving consumers with SUD, signifying a need for counselors to review and understand their agency's policies (Glenn & Keferl, 2008). Overwhelmingly, counselors in this study reported substance-use screening as being related to the goals of vocational rehabilitation and necessary for identifying functional limitations and work accommodations (Glenn & Keferl, 2008). The authors suggested an infusion of SUD screening into graduate program curricula and in VRS practice (Glenn & Keferl, 2008).

Heinemann, McAweeney, Lazowski, and Moore (2008) expanded upon this research by collecting quantitative data from VR agencies in six states on the number of substance use screenings provided to consumers, completed screenings, screening refusals and screen-positive rates among consumers. Counselors in Illinois, Ohio, West Virginia, Virginia, Utah, and Kentucky were trained over the course of two days in administering the SAVR-S. The project varied in length between VR agencies from 4 to 15 months of counselor participation and SAVR-S administration. Counselors involved were encouraged to administer the SAVR-S to all willing consumers during intake. Results were then faxed to the Substance Abuse Subtle Screening Inventory (SASSI) Institute for analysis. Reports indicated, "30.1% of customers' positive screenings suggests a likelihood of substance use problems" (Heineman et

al., 2008, p. 9). States varied in the number of consumers invited to take the SAVR-S; Illinois (14%), Ohio (18%), West Virginia (23%), Utah (53%), Kentucky (57%) (Heineman et al., 2008). The authors of this study attributed the variation in screening rates to the differentiation in state VR policies and the level of support from agency administration (Heineman et al., 2008). They concluded that in order for screenings to be effective, agencies need invested directors and management to develop a sustainable screening system (Heineman et al., 2008).

As nonclinical service providers, VR counselors may provide screening and brief intervention (SBI) to consumers outside of health care settings, lowering the cost of such practices. A cost analysis, of employee assistance programs (EAP) providing SBI, by Cowell, Bray, and Hinde (2011) found that those programs incurred a lower economic burden than health care settings providing SBI. Similar to VRS in terms of client contact, EAPs typically provide short-term counseling, referral services and education to clients accessing their services. The authors of this study analyzed data from 28 EAPs providing ongoing implementation of SBI to clients in 2009. The 10-item, Alcohol Use Disorders Identification Test (AUDIT) questionnaire, was used by counselors as the screening component of the SBI. Motivational interviewing techniques were utilized as apart the brief intervention component which was delivered during 50 to 60 minute counseling sessions. Prior to research participation, counselors were trained via three internet modules which provided guidelines, information and video demonstrations on implementing SBI. Pre and post tests were administered to ensure counselor competency. Counselors in this study saw approximately 21 clients per week with 23 hours of client time. On average, the screening cost per client was

$0.64 and the brief intervention cost per client was $2.52 (Cowell et al., 2011). Brief intervention was measured in terms of time spent on intervention techniques during the counseling session. The $83 per counselor training cost to provide SBI is relatively low in regards to its evidence-based effectiveness on chemical use reduction (Brown, Leonard, Saunders, & Papasouliotis, 1998).

Employment as treatment. Employment has, in itself, become a method of treatment for chemical addiction. Stability and structure, offered through employment, is able to replace the cyclical chaos which is characteristic of chemical abuse. Webster, Staton-Tindall, Dickson, Wilson, and Leukefeld (2014) sought to determine how effective employment outcomes were for drug involved offenders who participated in employment programs. Employment interventions of this type have been developed as a supplementary treatment method for drug addicts. In this study, 500 offenders from two Kentucky drug courts were recruited between March 2000 and December 2002. Participants were randomized into two groups, with half receiving employment interventions. The employment intervention consisted of 26 sessions and covered services often provided through VRS, such as resume building, filling out job applications, interview preparation, overcoming stigma and assimilating into the workplace. All participants were monitored for a 12-month period. Participants who participated in the employment intervention increased the number of days worked during the 1-year period (Webster et al., 2014). As with consumers with co-occurring disorders, many participants in this study had either inconsistent work history or no legal employment history. Those who had weak work experiences (negative pre-baseline work trajectory) prior to receiving the employment interventions benefited most (Webster et al.,

2014). At the 12-month follow-up, this group was more likely to be actively in the workforce and earning more income than those with a negative pre-baseline work trajectory who did not receive employment intervention (Webster et al., 2014). The authors concluded that "employment interventions for drug-involved offenders may be most appropriately targeted at those who have the least employment success" (Webster et al., 2014, p. 204). These findings are applicable to consumers with co-occurring addiction disorders who have a history of negative work experiences or lack work experiences.

Employment has also been shown to promote chemical abstinence (DeFulio & Silverman, 2011). DeFulio and Silverman (2011) measured levels of chemical abstinence in chronic cocaine users engaged in employment. As a contingency management intervention, employment-based reinforcement was administered to a portion of 128 unemployed cocaine-dependent patients in the Baltimore area. Patients selected for this program were hired as data entry employees and paid $8.00 per hour for 1 year. Those assigned to the abstinence-contingent intervention group were required to provide drug-negative urine samples randomly throughout their employment. Participants who tested positive for cocaine were not allowed to work until their urine samples were clean. Drug-tests were also administered within the employment-only group, but drug-positive results remained accepted in the employment program. Employment ended for all participants after 1 year and follow-up assessments were conducted 6 and 12 months later. Evidence from this study indicated that "employment-based abstinence reinforcement effectively maintained cocaine abstinence throughout a year of employment" (DeFulio & Silverman, 2011, p. 964). Seventy-four percent of participants within the abstinence-contingent group produced negative drug tests

(Defulio & Silverman, 2011). However, when assessed at the 12-month follow-up, members of both groups exhibited similar levels of cocaine use (Defulio & Silverman, 2011). This indicates that for abstinence-contingent employment to be effective in maintaining drug abstinence, it must remain ongoing.

Comorbidity Employment

The presence of an SUD does not predict unsuccessful employment outcomes. In fact, a 2002 study conducted by Drebing et al. found that veterans with a co-occurring SUD had higher work functioning capabilities than veterans with only an SUD or only a psychiatric disorder. In this study, researchers collected data from the Compensated Work Therapy Program (CWT) of the Veterans Health Administration (VHA) regarding the demographic and employment outcomes of 25,480 veterans. Participants were divided into groups based on the presence of either an SUD, a psychiatric disorder or a psychiatric disorder with a co-occurring SUD. Veterans working within CWT were seeking to return to competitive employment or to maximize functioning within their current employment. Data revealed "a small but statistically significant advantage in vocational functioning, vocational rehabilitation participation, and outcome was associated with a co-existing SUD" (Drebing et al., 2002, p. 11). The authors explained that the presence of a co-existing SUD in psychiatric consumers may not impact work as a dimension of functioning significantly more than a psychiatric condition already would impact outcomes (Drebing et al., 2002). It was suggested vocational rehabilitation counselors refrain from assuming a consumer with a co-occurring SUD will produce negative employment outcomes (Drebing et al., 2002).

A 10-year longitudinal study by McHugo, Drake, Xie, and Bond (2012) on persons with severe mental illness and an active SUD measured non-vocational outcomes in comparison with having steady employment. The authors acknowledged that employment assists in the recovery process for consumers with co-occurring SUDs by providing income, value and stability (McHugo et al., 2012). Other psychosocial improvements included increases in self-esteem, symptom control and quality of life (McHugo et al., 2012). This study utilized data from The New Hampshire Dual Diagnosis study, which followed 223 participants with severe mental illness and a co-occurring SUD, and the authors found that participants who had steady employment were more likely to gain independent housing and increase in their life satisfaction (McHugo et al., 2012). The authors also identified for consumers with substance use comorbidity, "steady employment and developing an identity as a worker may also help them to rely less on mental health services and to break away from the acculturated identity as a patient" (McHugo et al., 2012, p. 238).

Hollar, McAweeney, and Moore (2008) investigated whether co-occurring SUD impacted closure status among VRS consumers. Using the Longitudinal Study of the Vocational Rehabilitation Services Programs (LSVRSP) database, Hollar et al., (2008) utilized a logistic regression model to predict closure status and the presence of a primary or co-occurring SUD. Consumer and counselor survey data from 40 VR offices across 32 states was used, for a total sample population of 11,401 consumers. In this study, consumers with SUD "had higher unsuccessful case closures following receipt of VR services when compared to consumers who had a successful case closure or those who had an unsuccessful case closure who did not receive VR services" (Hollar et al., 2008, p. 50). Overall, consumers

unsuccessfully rehabilitated reported they did not receive enough services from VR (Hollar et al., 2008). Counselors in this study described consumers with SUD as uncooperative and poor in communication (Hollar et al., 2008). The authors' suggested that VRS provide SUD specific services, increased follow-up for consumers with co-occurring SUD who become employed, generate a thorough understanding of barriers for this disability, and provide more opportunities to participate in supported employment (Hollar et al., 2008).

A historical cohort study of 1,748 consumers with serious mental illness examined the enrollment in supported employment with consumers with and without a SUD (Froundfelker et al., 2011). Participants were patients at Thresholds Psychiatric Rehabilitation Centers in Chicago, between January 2008 and December 2009, who had access to employment specialists and vocational services (Froundfelker et al. 2011). Five hundred and ninety-five or 34% of the participants had an active co-occurring SUD (Froundfelker et al. 2011). It was found consumers with an SUD were, "52% less likely than those without to enroll in a supported employment program," though 75% of them were interested in supported employment (Froundfelker et al., 2011, p. 545). Of those who gained employment, their vocational outcomes were similar to those with mental illness alone. The authors noted the discrepancy in consumers with co-occurring disorders not being enrolled in supported employment may be due to practitioner bias in practice (Froundfelker et al. 2011).

McAweeney, Keferl, Moore, and Wagner (2008) sought to determine predictors of successful case closures among consumers with primary or secondary SUD diagnosis. The researchers in this study randomly selected 940 consumers from the 2005 Rehabilitation Service Administration (RSA) 911 data set who had either a primary SUD or co-occurring

SUD. Of the 940 consumers, 513 (55%) had successful case closures and 427 (45%) were unsuccessfully closed (McAweeney et al., 2008). Variables studied among these consumers were individual demographics, possible work disincentives and vocational rehabilitation service variables. Results indicated that consumers were more likely to be successful if they received job placement, diagnosis and treatment services, did not receive financial aid and if they utilized more services overall at a greater cost (McAweeney et al., 2008). As elucidated by the authors in referencing Shepard and Reif (2004), providing more services at a greater cost is economically sensible based on the $7 saved to every $1 spent ratio for successful closures (as cited in McAweeney et al., 2008). This study revealed that assisting consumers with SUD is fiscally sound and effective if the right services are provided. Reiterating the findings of past studies, McAweeney et al. (2008) implore that "VR counselors and indeed the VR service delivery system as a whole, has the ability to implement such qualitative improvements in service delivery for persons with SUD" (McAweeney et al., 2008, p. 35).

In an effort to gain insight on the functional limitations of consumers with co-occurring SUDs, Janikowski, Lawrence, and Donnelly (2007) surveyed Program Directors working within substance abuse treatment settings in New York. Directors from inpatient, outpatient and residential treatment facilities were selected for this study. Using the *Disability, Functional Limitations and Substance Abuse* (DFLSA) survey, researchers in this study sought to determine how functional limitations in this population impacted consumer goals in treatment, education and employment. Developed by the authors of this study, the DFLSA presented the following limitations along with their definitions: mobility, communication, atypical appearance, invisible limitation, restricted environment, pain,

consciousness, uncertain prognosis, debilitation and coordination. Uncertain prognosis was indicated as the most detrimental functional limitation on vocational treatment goals creating an underlying need for counselor training in chronic conditions with co-occurring SUDs (Janikowski et al., 2007). Pain was the second highest rated functional limitation for vocational goals with the authors noting "improved assessment and treatment of pain phenomena may be an area with great potential to decrease motivation to self-medicate via substance abuse" (Janikowski et al., 2007, p. 21). Overall, functional limitations in consumers with co-occurring disorders had a significantly greater impact on employment goals than substance abuse treatment goals (Janikowski, 2007).

As exhibited above, to effectively assist in the achievement of vocational goals for this population, rehabilitation counselors need to be aware of the specific vocational needs for consumers with co-occurring SUD. Walls et al. (2009) investigated and compared job accommodations and employment outcomes for consumers with a primary diagnosis of SUD who accessed VRS services during the years 1996, 2000 and 2004. Data for this study was collected from the Rehabilitation Services Administration (RSA) representing 29,063 consumers in 1996, 36,529 consumers in 2000 and 35,473 consumers in 2004. Secondary data was pulled from the Job Accommodation Network (JAN) and incorporated 1,365 cases of accommodations between 1996 and 2005 of consumers with substance abuse issues. In 1996, 13,455 consumers with SUD were not rehabilitated compared to 15,608 who were closed with a successful rehabilitation. "There were relatively greater differences for rehabilitated versus not rehabilitated clients who received: (1) Job Finding Services and (2) Job Placement Services" (Walls et al., 2009, p. 38). Data from 2000 revealed similar service disparities in

employment outcomes for consumers who did not receive Job finding Services and Job Placement Services (Walls et al., 2009). In 2004, the service differentiation was even greater. The 17,323 consumers with unsuccessful rehabilitation outcomes were less likely to receive Job Finding Services, Job Placement Services, Transportation and Maintenance (Walls et al., 2009). The authors of this study offered several practice recommendations for counselors working with consumers with SUD.

Walls et al., (2009) suggest:

> (a) Recognize that functional limitations vary (e.g., interpersonal and safety). (b) Make workplace accommodations that directly impinge on limitations related to job functions (e.g., attend work was the primary function). (c) Publicize funding sources for workplace accommodations (e.g., VR and other programs). (d) Assist employers in providing appropriate job accommodations (e.g., JAN). € Make the laws (regulations) as clear as possible on right and responsibilities (e.g., ADA confusing for substance abuse). (f) Assist all concerned in understanding the legal requirements (e.g., ADA primary issue). (g) Provide training to counselors and therapists to reduce misconceptions and increase effective strategies. (h) Keep contact current between counselors and consumers in order to reduce "unable to locate or contact" case closure outcomes. (i) Help people who are unemployed set realistic employment goals. (j) Provide individuals in recovery with work-related skills. (k) Assist them with monetary maintenance, vocational training, job-finding services, job placement services, and on-the-job training. (l) Give employees post-employment services. (m) consider attention to attendance, transportation, concentration, stress/fatigue, organization, and substances in the workplace. (p. 43)

It is worth noting that of the 101,065 consumers analyzed in this study, over 50% achieved successful rehabilitation outcomes (Walls et al., 2009).

Counselor Training

VRS currently offers extensive training to new employees and current employees. As outlined in the Minnesota Vocational Rehabilitation Services State Plan for Fiscal Year 2015, trainings provided for new employees in fiscal year 2014 were New Employee Orientation, New Counselor Trainings, Data Practices, Ethics, Information Management, Purchasing

Procedures, Work Incentives, Transition 101, Labor Market Resources and Updates, Vocational Assessment Interpretation, ADA and Introduction to Supported Employment and Motivational Interviewing. In-service training opportunities include Individual Placement and Support Model for Persons with Serious Mental Illness, Rehabilitation Approaches to Serving People with Mental Health Disorders, Mental Health First Aid and Attention Deficit/ Hyperactivity Disorder-Learning Disability-Emotional and Behavioral Disorders: Effective Rehabilitation Approaches. Trainings are also provided to enhance knowledge of Social Security, Educational Transition Programs and Assistive Technology (Minnesota Department of Employment and Economic Development, 2014b). While this list is extensive and comprehensive, the VRS training outline for fiscal year 2015 did not include in depth trainings on effectively assisting consumers with chemical dependency.

In their analysis of current rehabilitation and addiction literature, Doughty and Hunt (1999) concluded that it is essential for rehabilitation counselors to produce treatment plans which address both mental illness and SUDs. They stressed the importance of having knowledge about both mental illness and addiction in order to help consumers develop realistic vocational goals and to determine if consumers need to be referred for treatment services (Doughty & Hunt, 1999). The authors stated that because each mental illness and SUD manifest uniquely, it is ethically imperative for rehabilitation counselors to be aware of a variety treatment methods and service needs of all dual disorders (Doughty & Hunt, 1999).

Research completed by Glenn and Keferl (2011) analyzed data from a state which initiated efforts from collaborations among substance abuse treatment agencies with vocational rehabilitation services. Data from 2005-2009 was collected, within an unidentified

state, which compared 22 substance abuse specialty VR counselors to 118 general VR counselors in order to determine performance indicated by the number of 26 case closures the counselors reported for persons with co-occurring substance use disorders (Glenn & Keferl, 2011). This study found that through collaborative efforts, consumers served by specialized counselors had more successful case closures, achieved a higher standard of living and cost significantly less than consumers without a dual diagnosis (Glenn & Keferl, 2011). The authors of this study suggested further research to gather additional data on collaborative models which other states may use to address consumers with substance abuse (Glenn & Kerfel, 2011).

Ong, Lee, Cha, and Arokiasamy (2008) conducted survey research on 100 rehabilitation counselors in the state of California to determine current training and practices regarding working with consumers with co-occurring substance abuse. Counselors were recruited through the District Administrators of California Department of Rehabilitation and were surveyed about their perceived competency in working with consumers with substance abuse disorders, intervention approaches and preferences, self-reported training deficits and the most effective means of ongoing training. Counselors included in this study reported a 90% incidence rate of consumers with alcohol and other drug abuse (Ong et al., 2008). Sixty percent of consumers were considered to have a co-occurring addiction disorder (Ong et al., 2008). Rehabilitation counselors in this study "reported that they lacked adequate alcohol and other drug training in their graduate program coursework, and believed that this training should be a required component of the curriculum" (Ong et al., 2008, p. 118). This study revealed a distressingly high portion of consumers with co-occurring addiction accessing

California VRS as well as definitive lack of self-efficacy in self-reported counselor competency and training.

Ong, Cardoso, Chan, Chronister, and Chin Chou (2007) collected survey data from 42 rehabilitation professionals on their perceived training needs in working with consumers with SUDs. Professionals registered within the 2006 New York Rehabilitation Counseling Association (NYRCA) roster were recruited for this study. Eighteen (42.95%) held the job title rehabilitation counselor, ten (23.8%) held the job title of administrator, three (7.1%) identified as rehabilitation educators, one (2.4%) was a job placement specialist, and ten (23.8%) indicated other job titles. Results from this study indicated a significant need for substance abuse training and assessment by rehabilitation professionals (Ong et al., 2007). Consumers with alcohol and other drug abuse (AODA) issues occurred at an incidence rate of 85% and consumers with co-occurring AODA issues occurred at a rate of 38.6% (Ong et al., 2007). "Of central importance was the finding that rehabilitation counselors lacked adequate AODA training in their graduate program coursework, and believe that this training should be a required component of the curriculum" (Ong et al., 2007, p. 183). The authors of this study suggested additional coursework in rehabilitation counseling graduate program curriculums which cover AODA treatment and assessment. Practicum or internship experiences were also encouraged (Ong et al., 2007).

In a 2008 study on factors predicting employment results for consumers with substance-related disorders accessing VR, Chronister et al. found a correlation between services provided and successful rehabilitation outcomes. Data for this study was mined from the Rehabilitation Services Administration (RSA) 911 data set and reflected services and

outcomes of 34,774 consumers who accessed VR services during Federal Fiscal Year (FFY) 2001. Eighty-nine percent of consumers (30, 950) had a primary diagnoses of a substance related disorder and 11% of consumers (3,884) had a co-occurring substance disorder. The number of consumers served by VR with a primary diagnoses of a SUD ranged between 3% and 10% (US Department of Health and Human Services, 2006 as cited in Chronister et al., 2008, p. 33). For this study, 55% of consumers had a successful rehabilitation during FFY 2001. Researchers determined 16 rehabilitation service variables to compare with employment outcomes: job-finding services, job placement, transportation, maintenance, personal assistance services, rehabilitation engineering, assistive technology, assessment, restoration, college/university training, business and vocational training, adjustment training, on-the-job training, miscellaneous training, counseling and guidance, other services. *Job placement* was found to be the service provided which most accurately predicted a successful employment outcome (Chronister et al., 2008). Only 29% of consumers in this study received job placement services and those who did not were at the highest risk for unsuccessful rehabilitation outcomes (Chronister et al., 2008). *Other services* were the second most likely predictor of successful employment among these consumers. The authors suggest the *other* category allows for more flexibility for counselors to customize services which meet the unique needs of consumers with SUDs. Research from this study also suggested further analysis of the importance of job placement services for consumers with co-occurring addiction and a "need for providing VR training to substance abuse counselors and substance abuse rehabilitation training to VR counselors" (Chronister et al., 2008, p. 48).

Research continues to describe a lack of training on addictions in rehabilitation counseling programs (Basford, Rohe, Barnes, & DePompolo, 2002; Chronister et al., 2008; Ong et al., 2008). West and Miller (1999) found a positive relationship in counselor attitudes towards consumers with SUDs when comparing counselors who received training in substance abuse to counselors who had not received training. Ninety-one vocational rehabilitation counselors employed by the Tennessee Division of Rehabilitation Services responded to a survey utilizing the Substance Abuse Attitude Survey (SAAS) which measures attitudes across five dimensions. Previous research conducted determined that rehabilitation counselors traditionally held negative views of consumers with SUDs (Allen, Peterson, & Keating as cited in West & Miller, 1999) and provided lower quality of services to this group (Taricone & Janikowski as cited in West & Miller, 1999). Results from this study indicated that counselors who had received education in working with addictions held significantly more positive attitudes than counselors who did not receive training (West & Miller, 1999). Evidence also identified that rehabilitation counselors in this study held negative beliefs about the potential of consumers with SUDs. These authors describe a need to "formally educate rehabilitation professionals about the true nature of substance abuse and substance abusing clients" (West & Miller, 1999, p. 36).

Expanding education opportunities in graduate school programs are allowing for greater diversity in job titles for rehabilitation counselors outside of the VR system. In a 2004 study on CRCs working in psychiatric rehabilitation settings, Tansey, Chan, Chin Chou and da Silva Cardoso found that the holistic training found in rehabilitation counselor education programs benefited professionals working outside of VR. Questionnaires were sent to 112

CRCs working in psychiatric rehabilitation or substance abuse rehabilitation. Thirty-seven participants (33%) responded to the survey which inquired about current job duties, managed care, professional overlap, critical issues, strengths of rehabilitation counselors, the value of the rehabilitation credential and training needs. Nine percent of counselors identified alcohol and other drug assessment and treatment as a training need (Tansey, Chan, Chou, & de Silva Cardoso, 2004). Fourteen percent of participants requested broader training and an expansion of services provided by rehabilitation counselors (Tansey et al., 2004). In terms of training and programs, this article focused primarily on the benefits of supported employed through the IPS model which assists consumers with severe and persistent mental illness who often have co-occurring SUDs. The authors noted the expressed desires of rehabilitation counselors to include substance abuse counseling and assessment into the IPS model of rehabilitation (Tansey et al., 2004).

Basford et al. (2002) conducted survey research on 46 rehabilitation training programs with inpatient rehabilitation units as identified by the American Board of Physical Medicine and Rehabilitation. Researchers in this study sought to compare attitudes, beliefs and policies, in regards to persons with SUDs, with previous research conducted by Rhoe and DePompolo (1985). Rhoe and DePompolo (1985) had formerly concluded that though substance abuse was acknowledged as an issue within rehabilitation medicine, "a large discrepancy existed between acknowledging the problem and the actual practices of recognition, detection, education and treatment" (as cited in Basford et al., 2002, p. 517). In their 2000 study, the researchers utilized the original 27-item survey developed by Rhoe and DePompolo (1985) with an additional 8 items, for a total of 35 questionnaire items. Results indicated that thought

the vast majority (80%) of programs were concerned or very concerned about chemical issues within their rehabilitation patients, only 67% routinely screened for SUDs (Basford et al., 2002). A finding of concern was that only about 20% of programs reported providing substance abuse training to staff even though consumers with alcohol and other drug problems made up 22% of overall patients (Basford et al., 2002). This study did determine some systematic improvements had been made among the programs who responded. Programs with written policies for working with consumers with SUD increased dramatically from 45% to 72% (Basford et al., 2002). Though the actual policies were not discussed in this article, the creation of policies implies a greater recognition for professional standards in regards to working with this population.

Comorbidity and Other Disabilities

The Substance Abuse Resources and Disability Issues (SARDI) Program at Wright University was awarded a NIDRR Rehabilitation Research and Training Center (RRTC) grant in 1993, and refunded in 1997 for an additional 5 years, to research illicit drug use among consumers utilizing VRS. The primary goal of the RRTC on Drugs and Disability was to improve employment outcomes for consumers with substance abuse who accessed VR agencies. Data from a 1996 epidemiological study of three states revealed demographic prevalence rates of illicit drug use among consumers. Four thousand six hundred consumers were randomly selected from Ohio, Michigan and Illinois VR databases and mailed a questionnaire which asked about their drug use. Additional consumers were recruited through their direct contact with 12 state VRS offices. A total 1,876 consumers participated for a 35% response rate. Findings from this initial study found that daily illicit drug use was

significantly higher for consumers accessing VR than the general population (RRTC, 1996). Twenty-one percent of respondents identified that they had received treatment for their chemical dependency and that 21.7% had been in treatment while enrolled with VRS. Twenty-two point five percent identified themselves as being either an alcoholic or drug addict in recovery (RRTC, 1996).

The project was expanded in 1997 to include six additional states; Maryland, Massachusetts, Montana, North Carolina, South Dakota and West Virginia. The response rate for this comprehensive, longitudinal/natural history survey was 1,297 useable returns. This phase of research also included a RRTC follow-up interview with 425 consumers, from Ohio and Michigan, who had indicated in the previous study that they abused chemicals. Thirty-four point eight percent (148) responded for the qualitative portion of this study. Results indicate that alcohol and drug use among persons with disabilities, who access VRS, is substantially greater than the general population (RRTC, 2004). Prevalence rates for consumers with substance use disorders is fairly consistent within all the studied state VR systems and there is a relationship between the type of illicit drug abused and primary disability (RRTC, 2004). Of the 148 consumers interviewed, a general consensus within responses was that VRS did not provide direct and sustained support in getting a job as consistently as they would have liked (RRTC, 2004). In response to these findings, SARDI successfully disseminated information through education, training, development of curriculum materials, website modification and conference presentations.

Multiple sclerosis. Few studies have measured AODA among consumers with multiple sclerosis (MS). Bombardier et al., (2004), surveyed members of the Multiple

Sclerosis Society of King County (Washington) to determine the SUD incidence rate among this population. Seven hundred and forty-nine individuals with MS responded to a survey constructed to determine current alcohol problems, other drug misuse, interest in change, depressive symptomatology, fatigue impact, social support, general health, pain, and disease severity. The data elucidated an elevated level of AODA among this population of individuals with nearly 19% reporting either abusing alcohol within the last month or misusing drugs (Bombardier et al., 2004). Individuals who had abused alcohol were significantly more likely to score higher for depressive symptomatology (Bombardier et al., 2004). The authors deduced the significance of these findings in MS individuals in particular because of the negative impact chemical abuse could have on functioning and MS disease progression (Bombardier et al., 2004).

Intellectual disabilities. Research conducted by Slayter (2010) examined treatment utilization by Medicaid-covered consumers with intellectual disabilities and co-occurring SUDs. As more consumers with intellectual disabilities are integrated into communities, greater social freedom has increased the risk for SUDs in those populations (Slayter, 2010). Consumers with intellectual disabilities and co-occurring SUDs experience the consequences of the SUD along with stigma attributed to having an intellectual disability. SUDs may increase isolation, chronic illness and interpersonal conflict which can impede a consumer's ability to live successfully within a community (Slayter, 2010). Slayter (2010) analyzed data from 1999 which detailed treatment utilization of persons with at least one substance use diagnosis and persons with an intellectual disability and co-occurring SUD. It was found that "existing systems must improve their services for applicability to populations with intellectual

disabilities" and health policies may be updated to "provide possible pathways to treatment via intersystem collaboration" (Slayter, 2010, p. 368).

ADHD and autism spectrum disorder. Kronenberg, Slager-Visscher, Goossens, van den Brink, and van Achterberg (2014) conducted a qualitative study using in-depth interviews to expand the knowledge base on consumers with chemical dependency and co-occurring attention deficit/hyperactivity disorder (ADHD) or chemical dependency co-occurring on the autism spectrum (ASD). In their study, approximately 23% of consumers with a chemical dependency diagnosis also met the criteria for ADHD and ASD had a lifetime prevalence rate of chemical dependency from 11% to 29% (Kronenberg et al., 2014). Eleven consumers with chemical dependency and ADHD, and 12 consumers with chemical dependency and ASD, were interviewed and the results were analyzed in order to identify everyday challenges faced by these populations. Both groups reacted to everyday stressors, such as decreased structure, with increased symptoms and increased substance use (Kronenberg et al., 2014). Substance use leads to decreased structure which further increases substance use. Consumers with ADHD or ASD and a co-occurring chemical dependency would benefit from the structure provided through employment. In FFY 2012, Minnesota VRS served 488 ASD consumers alone (Minnesota Department of Employment and Economic Development, 2014a).

Spinal cord injury. In a study conducted by Stroud, Bombardier, Dyer, Esselman, and Rimmele (2011), the authors sought to determine how preinjury alcohol and drug use affected substance abuse among persons with recent spinal cord injury (SCI). Rates for post injury alcohol and drug dependence are high and the risk for dependence increases if a person used prior to becoming injured (Stroud et al., 2011). Preinjury alcohol and drug problems for

persons with SCI decrease rehabilitation outcomes, are associated with diminished health, and make psychological adjustments to the SCI more difficult (Stroud et al., 2011). The authors measured persons with recent SCI in an inpatient rehabilitation program within a Level 1 trauma center to determine alcohol and drug use, toxicology results, and alcohol related problems. Of the 118 participants, 51% of the sample were considered at risk drinkers, 44% of cases with toxicology results (82 participants) tested positive for illicit drugs and 38% of participants reported alcohol-related problems (Stroud et al., 2011). It was concluded that "preinjury alcohol and drug abuse are common among persons with recent SCI" (Stroud et al., 2011, p. 461).

Blind/vision loss. Brooks, DiNitto, Schaller, and Choi (2014) conducted a cross sectional study of 69 participants using rehabilitation services for people with visual impairments in an unidentified south-western state. The Substance Abuse Subtle Screening Inventory-3 (SASSI-3) was used to measure factors of substance dependence among people with visual impairments (Brooks et al., 2014). Koch, Nelipovich, and Sneed (2002) estimated that as many as "one-fifth to one-half of people with visual impairments might have substance use problems" (as cited in Brooks et al., 2014, p. 428). Of the sample of 69 participants, 32% had probable substance dependence and 17% were considered dependent (Brooks et al., 2014). The authors suggested that rehabilitation and other professionals become educated and receive skills training which specifically assists consumers with visual impairments and chemical dependency (Brooks et al., 2014).

Deaf/hard of hearing. In an effort to determine lifetime prevalence rates of suicide attempts in persons who are Deaf and have a co-occurring SUD, Embree (2012) conducted a

retrospective secondary data analysis of 107 consumers servicing the Deaf Off Drugs and Alcohol Program (DODA). The additional stigma created by an SUD, language barriers and misconceptions on Deafness, generate further barriers for persons who are Deaf and hard of hearing with SUDs (Embree, 2012). Alarmingly, Embree (2012) found that among participants within the Ohio-based DODA program, suicide attempts were reported at a rate of 42.1% for the sample and 72.7% for women who are Deaf (Embree, 2012). There is a deficit of research on persons who are Deaf and have a co-occurring SUD.

Youth with disabilities. AODA in youth with disabilities is another concern which needs to be addressed (Morgen et al., 1994). Demers (2000) and Simeonsson et al., (2002) have implied that youth with disabilities are engaging in AODA use at comparable to greater rates than their nondisabled peers (as cited in Hollar & Moore, 2004, p. 932). Rossi et al., (1997) illuminated the educational disparities of youth with disabilities as including "lower grades, lower proficiency test scores, twice to three times higher dropout rates, and lowered postsecondary educational aspirations" (as cited in Hollar & Moore, 2004, p. 934). In effort to increase knowledge on this issue, Hollar and Moore (2004), analyzed data from the National Education Longitudinal Study of 1988-2000, to determine the impact of substance use on education, employment and social outcomes among 1,021 students identified as having a disability. Alcohol, tobacco, marijuana and cocaine were the designated independent variables in this study, measured against education, employment and social outcomes. Data revealed "youth with disabilities who used alcohol, cigarettes, marijuana, or cocaine in high school experienced substantial negative outcomes" in education, social success, and employment outcomes (Hollar & Moore, 2004, p. 950). The educational consequences of substance use

were determined to be both immediate and long-term in youth with disabilities (Hollar & Moore, 2004). Chemical use increased the likelihood that these individuals would engage in risky sexual behavior and interact with the law (Hollar & Moore, 2004). The authors suggest intervention and prevention education specifically addressing youth with disabilities (Hollar & Moore, 2004).

Standards for Certified Rehabilitation Counselors

To determine essential knowledge domains for rehabilitation counselors, Leahy, Chan and Saunders (2003) surveyed 631 CRC's using the Knowledge Validation Inventory-Revised (KVI), which measured the importance of certain job functions and professional responsibilities of working rehabilitation counselors. Data from this analysis was then used to advise standards for the CORE curriculum and themes for the CRC examination. Findings of this study indicated that CRCs considered substance abuse and treatment to be one of the emerging knowledge domains which is "clearly important to effective practice" (Leahy et al., 2003, p. 78). Understanding how to address these emerging knowledge domains in curriculum will be especially important as the Council on Rehabilitation Education (CORE) dissolves and the rehabilitation education professional merges with the Council for Accreditation of Counseling and Related Educational Programs. As rehabilitation professionals, it is our responsibility to advocate for education standards that will ensure the quality of service delivery for consumers, including consumers with co-occurring SUDs.

Leahy, Muenzen, Saunders and Strauser (2009) have identified the importance of "maintaining valid standards for educational (curriculum) program accreditation" through the generation of new knowledge about the field and emerging populations (Leahy et al., 2009,

p. 95). The authors of this study surveyed 648 CRC's using the KVI-R's structure and information gathered from the CRCC Examination and Research Committee to collect data regarding knowledge domains, job functions and how to include them in the professional development of rehabilitation counselors. The authors of this study encourage educators and pre-service trainers to continually reevaluate curriculums and trainings as the needs within the rehabilitation profession evolve (Leahy et al., 2009, p. 106). Addiction studies and training should begin to be considered as necessary in the education of rehabilitation counselors.

Chapter III: Methods

This was self-reported, quantitative survey study with a nonexperimental ex post facto design. Counselors working for Minnesota Vocational Rehabilitation Services (VRS) were assigned to one of four categories based on academic and professional credentials obtained.

Participants

This study was carried out with the cooperation of Minnesota Vocational Rehabilitation Services. 150+ counselors working for Minnesota Vocational Rehabilitation Services were asked to voluntarily participate in an electronic questionnaire and results were randomly selected from the acquired data. Counselors were selected for participation in the survey based on the following criteria: (1) had graduated from an accredited institution with a minimum of a Master's degree in either Rehabilitation Counseling, Social Work or a closely related field; (2) they held a job title of vocational rehabilitation counselors; (3) they had been working for state VRS for at least 1 year; (4) if they had been employed by VRS for less than 1 year, then they have at least 1 full year experience in a related occupation.

The first category group of this study contained VRS counselors who had obtained Certified Rehabilitation Counselor (CRC) credentials. The second category group consisted of those VRS counselors who are both CRC and LADC certified. Obtaining of professional credentials served as the independent variable being measured. Group three were VRS counselors who have no certifications and the category four group were VRS counselors who have Master's degree in a related field. Group determinations are exhibited in Table 1.

Table 1

Group Determinations

Group Assignments	**Selection Criteria**
Category 1	Master's degree in Rehabilitation Counseling and Certified Rehabilitation Counseling (CRC) credentials
Category 2	Master's degree in Rehabilitation Counseling and CRC and Licensed Alcohol and Drug Counselor (LADC) credentials
Category 3	Master's degree in Rehabilitation Counseling and no credentials
Category 4	Master's degree in a closely related field and no credentials

Data Collection Procedure

Counselors in all categories had a seven week time period, 10/02/2015-11/11/2016, to complete the questionnaire. The questionnaire was sent to all vocational rehabilitation counselors working for Minnesota Vocational Rehabilitation Services in collaboration with vocational rehabilitation staff development administrator. The survey data was collected electronically by the principle investigator (PI) through Survey Monkey and remained anonymous. Data is being stored digitally on a password protected computer accessible only to the PI until thesis is finalized. The data is also being stored in hard copy form in the locked office of Amy Knopf for 3 years.

A cover letter explaining Informed Consent was part of the consent process. Counselors were asked to give consent prior to filling out the questionnaire. Forms of consent, as well as the questionnaire, were electronically collected by the PI at the time of completion. Questionnaires were anonymous. The PI did not record signatures via consent forms and furthermore, did not inflict any kind of direct follow-up or discussion regarding those

counselors who chose to, or chose not to, participate in the research. All counselors may be invited to participate in a post-hoc analysis in the form of a focus group as enough interest was indicated within the collected data. Vocational rehabilitation counselors were asked to complete a voluntary questionnaire asking for information about counselor caseloads from Federal Fiscal Year 2015, education history and professional credentials. Counselors were asked if they would be willing to participate in a focus group to further discuss working with people who have a disability and co-occurring chemical dependency diagnosis.

Measures

Literature pertaining to mental health, addictions, co-occurring disorders and employment was used to generate four general measurement categories of predictor variables–*Credentials of VRS Employees, Disability and Substance Use Status of Consumers, Employment Outcomes of Consumers with Co-occurring Substance Use Disorders and Caseload Characteristics*–that might impact outcomes for counselors working with consumers with co-occurring substance use disorders.

Credentials of VRS employees.

Formal education. Counselors had received formal education from an accredited institution and have graduated with a Master's degree in Rehabilitation Counseling or a degree in a closely related field with exposure to graduate level counseling theories and techniques.

Formal education/credentialed. Counselors had received formal education and supplementary credentials: CRC, LADC and CRC. Note: Counselors were asked to list any additional credentials which they may have acquired.

Formal training. Training and education provided by VRS or related organizations for employees specifically related to working with consumers who have a SUDs.

Informal training. Self-education or personal exposure, as described by the participant, which increased their effectiveness in working with consumers with a co-occurring SUD.

Disability and substance use status of consumers.

Diagnosed. A recorded number of consumers worked with who had been diagnosed as having a co-occurring chemical dependency.

Likely diagnosis. A recorded number of consumers who the counselor believed to have a likely co-occurring chemical dependency which was not diagnosed or self-diagnosed.

Absence of substance use. A recorded number of consumers who self-report and appear to abstain from substance use. This question was not asked directly but can be implied by the number of consumers per caseload who were not reported as having either a diagnosis or likely diagnoses of chemical dependency.

Employment outcomes of consumers with co-occurring addiction disorders.

Successful employment. The definition of successful employment as described in the Minnesota Vocational Rehabilitation Service's Program Based Agreement for Job Placement and Job Retention Services is 90-day job stabilization upon completion or services and follow-up. It is at this milestone that VRS can consider a consumer to be moving out of training and into full employment within their occupation. Factors of job stabilization include: (1) the consumer has reached a maximum level of work performance; (2) job coaching and related support services have decreased to a level necessary to maintain the consumer in

employment through ongoing supports; (3) The consumer has made substantial progress toward working the number of hours per week specified in the Individual Plan for Employment (Minnesota Department of Employment and Economic Development, 2011).

Caseload characteristics. Specific questions pertained to characteristics of the individual counselor's caseload including the size of the caseload and primary populations that served within the caseload. During FFY 2014, 18,459 consumers were served by Minnesota VRS (Minnesota Department of Employment and Economic Development, 2014a). Caseload types fall into four categories: (1) General; (2) Transition; (3) Individual Placement and Support; (4) Deaf/Hard of Hearing.

General. General caseloads comprise the majority of VRS services. To enroll in the program, consumers are required to meet general eligibility requirements determined by agency policies, with persons with the most severe disabilities receiving treatment first.

Transition. Transition caseloads made up 42% of Minnesota VRS caseloads in 2014 (Minnesota Department of Employment and Economic Development, 2014a). Transition caseloads consist of high school aged students ranging from 16 to 21 years old, who may require prevocational services to obtain future competitive employment or post-secondary training.

Individual placement and support. IPS caseloads consist of consumers meeting the criteria of having a severe mental illness or a severe and persistent mental illness. IPS services are provided by a team of individuals which includes employment service specialists, mental health practitioners and rehabilitation counselors.

Deaf/hard of hearing. Counselor caseloads which focus primarily on serving consumers who are either Deaf or Hard of Hearing.

Other. In recognition that other addictions can co-occur with primary diagnoses, counselors were also asked to identify within their caseload other addictions besides chemical dependency that they consider to be common.

Analysis

Statistical analysis of data collected was completed by the PI. The PI administered data through the Statistical Consulting and Research Center at St. Cloud State University when necessary. PI also consulted with the members of the Husky Data Analytics Association for assistance with analysis.

A one-way analysis of variance (ANOVA) was utilized to compare independent variables between-groups. The independent variables caseload size, professional credentials, and years worked, each contained three or more levels. An independent group *t* test was used to measure the independent variable of academic credentials which had two levels: (1) a master's degree in rehabilitation counseling; (2) a master's degree in a closely related field. A secondary analysis was completed with several chi-square tests to measure the relationships between all of the variables.

Chapter IV: Results

This chapter details the results extracted from the survey on counselor competency in working with consumers who have a co-occurring SUD. Characteristics of the respondents will be discussed as well as measured frequencies and results determined through ANOVA and chi-square analysis. A cumulative summary will be provided at the close of this chapter.

Characteristics of the Sample

Five variable categories were analyzed to describe this sample. Categories included; (a) counselor characteristics; (b) caseload characteristics; (c) incidence of chemical dependency; (d) successful case closures; (e) training needs of counselor. Counselors' characteristics variables included; years worked, job title, credentials obtained, degree acquired and hours of addiction related training as reported in Table 2.

Table 2

Demographics of Counselor Variables

Demographic Variables	N	%
Job Title		
Rehabilitation Counselor Senior	11	18.0%
Career Rehabilitation Counselor	50	82.0%
Years Worked		
1 to 5 years	13	21.3%
6 to 10 years	20	32.8%
11 years or more	28	45.9%
Credentials Obtained		
CRC	30	49.2%
CRC-Lapsed	2	3.3%
CRC and other	6	9.8%
Other	3	4.9%
None	20	32.8%
Degree Obtained		
Masters in Rehabilitation Counseling	53	86.9%
Masters in a closely related field	8	13.1%
Hours of Addiction Trainings		
0	11	18.0%
1 to 15	36	59.0%
16 to 30	10	16.4%
31 or more	4	6.6%

Of the 156 rehabilitation counselors, 83 (53.21%) counselors initiated the questionnaire and 61 (39.1%) completed the 13 questions. There were 22 incomplete surveys that were excluded from statistical analysis. Eleven (18.0%) of the sample identified their job

title as senior rehabilitation counselor senior and 50 (82.0%) identified as career rehabilitation counselors. Twenty-eight respondents (45.9%) had worked at VRS for 11 years or more, 20 (32.8%) had worked for 6 to 10 years and 13 (21.3%) had worked for 1 to 5 years. A large number of counselors (N = 30) were currently credentialed as CRC. An additional six counselors had both a CRC and other credentials, which included American Sign Language (N = 1), Licensed Clinical Social Worker (N = 2), Licensed Independent Social Worker (N = 1), Global Career Development Facilitator (N = 1) and Licensed Professional Counselor (N = 1). Two counselors identified past CRC credentials which had lapsed by the time of the survey. Twenty counselors (32.8%) had never acquired professional credentials. The majority of respondents, 86.9%, had obtained a master's degree in rehabilitation counseling while only 13.1% had received master's degrees in closely related fields. Counselors were asked to identify the number of hours they had received addiction training beyond classroom time spent within their master's programs. Eighteen percent (N = 11) of counselors indicated that they had spent zero hours of training in addictions outside of their master's program. Most counselors (N = 36), had approximately 1 to 15 hours of training in addictions.

Counselor caseload variables were categorized by size and type. Caseload types included general, transition, IPS and Deaf/Hard of hearing. Data reported on demographic variables of counselor caseloads from FFY 2015 is represented in Table 3.

Table 3

Demographics of Counselor Caseload Variables

Demographic Variables	N	%
Caseload Size		
60 to 80	21	34.4%
81 to 99	23	37.7%
100 or more	17	27.9%
Caseload Type		
General	41	67.2%
Transition	14	22.9%
IPS	5	8.2%
Deaf/Hard of Hearing	1	1.6%

Caseload sizes ranged from 60 to 183 with an average caseload size of 92. Caseloads were grouped into three categories, 60 to 80 consumers (N = 21), 81 to 99 consumers (N = 23) and 100 or more consumers (N = 17). The majority of caseloads in this study, 67.2%, consisted of general consumers. Transition caseloads made up 22.9% of responses, 8.2% were representative of IPS caseloads and 1.6% were Deaf/Hard of Hearing caseloads. Counselors reported an average of 21.5 (SD=6.94) successful case closures per caseload during FFY 2015.

Counselors self-reported incidence rates of consumers with a diagnosed chemical dependency or likely undiagnosed chemical dependency on their caseloads from FFY 2015. Characteristics and frequency of chemical dependency and undiagnosed chemical dependency per caseload is described in Tables 4 and 5.

Table 4

Demographics of Counselor Caseload Variables

Demographic Variables	N	%
Diagnosed Chemical Dependency		
0	10	16.4%
1 to 10	27	44.3%
11 to 20	16	26.2%
21 or more	8	13.1%
Undiagnosed Chemical Dependency		
0	10	16.4%
1 to 5	24	39.3%
6 to 10	14	23.0%
11 or more	13	21.3%

The total number of consumers reported in this study was 5,615. Of those, 1,091 or 19.4% were reported as having either a diagnosed or undiagnosed chemical dependency. Consumers with chemical dependency diagnosis were grouped into four frequency categories. Respondents ranged from 0 to 55 consumers with diagnosed chemical dependency per caseload. Ten counselors (16.4%) reported that zero of their consumers had a diagnosis of chemical dependency. Forty-four point three percent (N = 27) of counselors, the largest group, reported within the range of 1 to 10 consumers with chemical dependency per caseload. Sixteen (26.2%) identified that approximately 11 to 20 consumers from their caseload's had a chemical dependency diagnosis and eight (13.1%) claimed 21 or more consumers had chemical dependency.

Consumers with a likely undiagnosed chemical dependency were also grouped into four frequencies. Data in this category ranged from 0 (N = 10) to 25 (N = 2). A total of 472

consumers were identified, within this sample of 61 caseloads, as having an undiagnosed chemical dependency. Ten respondents (16.4%) claimed that no consumers on their caseloads had an undiagnosed chemical dependency. Twenty-four (39.3%) counselors believed at least 1 to 5 of their consumers had undiagnosed chemical dependency while 14 (23.0%) reported as many as 6 to 10. Twenty-one point three percent of respondents (N = 13) believed that 11 or more of their consumers had an undiagnosed chemical dependency, meaning one-fifth of call caseloads had increased incidence rates of likely chemical dependency.

Table 5

Incidence of Chemical Dependency per Caseload

Frequency Variables	**Mean**	**N**	**SD**
Diagnosed Chemical Dependency	10.12	619	10.69
Undiagnosed Chemical Dependency	7.74	472	7.42

Most respondents identified consumers on their caseloads with a diagnosis of chemical dependency or a likely chemical dependency. Of the 61 caseloads, counselors identified 619 total consumers as having a diagnosis of chemical dependency and 472 consumers as having an undiagnosed chemical dependency. A mean of 10.15 (SD=10.69) consumers per caseload had a diagnosis of chemical dependency with an additional 7.74 (SD=7.42) consumers having a likely chemical dependency. Four (6.6%) reported zero consumers on their caseloads with a chemical dependency.

Successful case closures from FFY 2015 were reported per counselor caseload. Demographics and incidence of successful case closures for the 61 measured caseloads is represented in Tables 6 and 7.

Table 6

Demographics of Counselor Caseload Variables

Demographic Variables	N	%
Successful Case Closures		
1 to 15	8	13.1%
16 to 20	26	42.6%
21 to 25	14	12.0%
26 or more	12	19.7%

Case closures were divided into four frequency ranges prior to statistical analysis. Case closures ranged from 8 to 43 with the majority of respondents (N = 26) completing 16 to 20 case closures. 23.0% (N = 14) completed 21 to 25 successful case closures and 19.7% (N = 12) completed 26 or more. Thirteen point one percenter (N = 8) of respondents completed 1 to 15 case closures.

Table 7

Incidence of Successful Case Closures per Caseload

Frequency Variables	**Mean**	**N**	**SD**
Successful Case Closures	21.5	1,289	6.85

There were a total of 1,289 successful case closures from the counselors surveyed in this study. Counselors had an average of 21.5 (SD = 6.85) case closures per caseload during FFY 2015.

Counselors were asked whether they believed it was important for rehabilitation counseling programs to include addiction training into curriculum. The results from this question as described in table 8.

Table 8

Need for Addictions Training Frequency

Frequency	N	%
Yes	58	95.1%
No	3	4.9%

The vast majority, 95%, of counselors indicated that rehabilitation counselors should addiction trainings in their graduate programs. Only 3 (4.9%) believed training in addiction to be unnecessary.

In relation to hours of training received, counselors were asked whether their graduate programs had included any training in addictions into their curriculum. Results from this question are represented in Table 9.

Table 9

Graduate Programs with Addictions Training Frequency

Frequency	N	%
Yes	39	64.0%
No	22	36.0%

Twenty-two (36%) counselors reportedly received zero training in addiction within their graduate coursework. Thirty-six counselors reported that their graduate curriculum included knowledge of addiction.

Counselors were also asked to report any other addictions which they found to be prevalent on their caseloads. While five reported none and 10 reported unsure, several other addictions were noted. Twenty counselors (32.8%) identified food as another addiction present on their caseload. Twenty-three percent of counselors recognized the presence of technology addiction among their consumers, 18.0% reported gambling addiction, 16.4% reported sex or porn addiction, and 16.4% identified other drug addictions besides alcohol. Shopping (N = 2) and hoarding (N =1) were two other addictions recognized in this study.

Data Analyses

Differences by professional credentials, degree type, caseload type, number of consumers per caseload with chemical dependency and years worked, were analyzed to determine if there was a significant difference among demographic variables. A chi-square test of independence was performed on categorical data to analyze the difference between all of the variables. There were no significant differences between variables measured within the chi-square analysis. However, a few tests revealed trends which are worth noting. Tables 10

through 19 provide the sample sizes and distribution for each variable type within the chi-square analyses.

Table 10

Professional Credentials Compared to Successful Case Closures

		Group				
		CRC	CRC-Lapsed	CRC-Other	Other Credentials	None
Successful Case Closures	1 to 15	N = 4	N = 1	N = 0	N = 0	N = 3
	16 to 20	N = 14	N = 0	N = 2	N = 0	N = 10
	21 to 25	N = 6	N = 0	N = 1	N = 3	N = 4
	26 or more	N = 6	N = 1	N = 2	N = 0	N = 3

While no significant differences in case closure outcomes were detected in the chi-square analysis of closures and professional credentials, a visible trend can be seen, in Table 10, within the distribution of case closures and CRC credentials. The presence of a CRC credential, either current, lapsed or combined with another credential, increased the number of case closures counselors had obtained. No LADC credentials were represented in this study making the hypothesis determination inconclusive.

Table 11

Consumers with Diagnosed and Undiagnosed Chemical Dependency Compared to Caseload Type

Group					
		General	Transition	IPS	Deaf/Hard of Hearing
Diagnosed and Undiagnosed	0	N = 1	N = 2	N = 1	N = 0
Chemical Dependency	1 to 10	N = 13	N = 5	N = 1	N = 1
	11 to 20	N = 10	N = 5	N = 0	N = 0
	21 to 30	N = 10	N = 2	N = 1	N = 0
	30 or more	N = 7	N = 0	N = 2	N = 0

While Table 11 did not indicate any significant trends, it is important to note the frequency of diagnosed and undiagnosed chemical dependency among transition caseloads. Approximately 86% (N = 12) of transition caseloads reported elevated rates of chemical dependency. Transition caseloads serve consumers aged 16 to 21 so it is likely that large portion of SUDs reported are minors.

Table 12

Consumers with Diagnosed and Undiagnosed Chemical Dependency Compared to Professional Credentials

Group						
		CRC	CRC-Lapsed	CRC-Other	Other Credential	None
Diagnosed and Undiagnosed	0	N = 3	N = 0	N = 0	N = 0	N = 1
Chemical Dependency	1 to 10	N = 0	N = 1	N = 0	N = 2	N = 8
	11 to 20	N = 9	N = 0	N = 1	N = 0	N = 5
	21 to 30	N = 6	N = 1	N = 4	N = 1	N = 1
	31 or more	N = 4	N = 0	N = 0	N = =0	N = 5

It is worth noting that Table 12 indicates a similar trend in incidence reporting between credentialed and non-credentialed individuals. Non-credentialed counselors were just as likely to have increased chemical dependency incidence rates as credentialed counselors.

Table 13

Academic Credentials Compared to Successful Case Closures

Group					
		1 to 15	16 to 20	21 to 25	26 or more
Academic Credentials	Masters in Rehabilitation Counseling	N = 7	N = 23	N = 11	N = 11
	Master's in a closely related field	N = 1	N = 3	N = 3	N = 1

The number of counselors with master's degrees in rehabilitation counseling was vastly disproportionate to those counselors with a masters in a closely related field. Case closures remained consistent despite academic credential differences as seen in Table 13.

While there was no significant differences between the occurrences of chemical dependency and academic credentials, Tables 14 and 15 reveal a slight trend of increased undiagnosed chemical dependency occurrence rates for counselors with a master's in rehabilitation counseling. Those with a masters in a rehabilitation counseling also reported the only caseloads with zero consumers with chemical dependency.

Table 14

Academic Credentials Compared to Consumers Diagnosed Chemical Dependency

Group					
		0	1 to 10	11 to 20	21 or more
Academic Credentials	Masters in Rehabilitation Counseling	N = 10	N = 23	N = 14	N = 6
	Master's in a closely related field	N = 0	N = 4	N = 2	N = 2

Table 15

Academic Credentials Compared to Consumers Undiagnosed Chemical Dependency

Group					
		0	1-5	6-10	11 or more
Academic Credentials	Masters in Rehabilitation Counseling	N = 10	N = 20	N = 12	N = 11
	Master's in a closely related field	N = 0	N = 4	N = 2	N = 2

Tables 16, 17, and 18 indicate slight differences in case closure and chemical dependency incidence rates. Table 16 demonstrates a slight increase in the number case closures achieved compared to years worked for VRS, meaning the more years a counselor worked the higher number of successful case closures they achieved.

Table 16

Successful Case Closures Compared to Years Worked at VR

Group				
		1 to 5 years	6 to 10 years	11 or more
Successful Case Closures	1 to 15	N = 1	N = 1	N = 6
	16 to 20	N = 9	N = 8	N = 9
	21 to 25	N = 2	N = 5	N = 7
	26 or more	N = 1	N = 5	N = 6

Table 17 revels a definite trend in the number of reported diagnosed chemical dependency cases in relation to years worked.

Table 17

Diagnosed Chemical Dependency Compared Years Worked at VR

Group				
		1 to 5 years	6 to 10 years	11 or more
Diagnosed Chemical Dependency	0	N = 3	N = 3	N = 4
	1 to 10	N = 6	N = 10	N = 11
	11 to 20	N = 3	N = 4	N = 0
	21 or more	N = 1	N = 3	N = 4

Table 18 is the most significant in that it exhibits that counselors working for 10 years or less or more likely to report zero consumers on their caseloads with an undiagnosed chemical dependency.

Table 18

Undiagnosed Chemical Dependency Compared to Years Worked at VR

Group				
		1 to 5 years	6 to 10 years	11 or more
Undiagnosed Chemical Dependency	0	N = 4	N = 4	N = 2
	1 to 5	N = 2	N = 10	N = 12
	6 to 10	N = 2	N = 2	N = 10
	11 or more	N = 5	N = 4	N = 4

Table 19 represents a chi-square analysis combing successful closures with incidence of diagnosed chemical dependency and undiagnosed chemical dependency in comparison to credentials. No significant trends were reported.

Table 19

Successful Case Closures and Diagnosed/Undiagnosed Chemical Dependency Compared to Professional Credentials

Group						
		CRC	CRC-Lapsed	CRC-Other	Other Credentials	None
Successful Case Closures	1 to 25	N = 8	N = 1	N = 0	N = 0	N = 3
Diagnosed and Undiagnosed	26 to 40	N = 12	N = 0	N = 1	N = 2	N = 11
Chemical Dependency	41 or more	N = 10	N = 1	N = 4	N = 1	N = 6

A series of chi-square test were used to analyze professional credentials, academic credentials, years worked, caseload type, successful case closures, and incidence of chemical dependency and undiagnosed chemical dependency. Analyses was conducted to ascertain if there were significant correlations between several of these variables. The primary function of this analyses was to determine if professional credentials impacted the number of successful case closures and reported chemical dependency diagnoses per caseload. Other analyses included: professional credentials compared to the number of successful case closures; academic credentials compared to the number of successful case closures; years worked for VR compared to successful case closures; professional credentials in comparison to reported chemical dependency and undiagnosed chemical dependency; caseload type compared to incidence of chemical dependency and undiagnosed chemical dependency; caseload size compared to incidence of chemical dependency and undiagnosed chemical dependency;

academic credentials compared to reported incidence rates of chemical dependency; academic credentials compared to reported incidence rates of undiagnosed chemical dependency; years worked for VR compared to reported incidence rates of chemical dependency; years worked for VR compared to reported incidence rates of undiagnosed chemical dependency. The results of the chi-square tests of independence by professional credentials, academic credentials, years worked, caseload type, successful case closures, and incidence of chemical dependency and undiagnosed chemical dependency are reported in Tables 8 through 11.

A series of ANOVA tests and Post Hoc tests were used to measure the between-subjects variance between the independent variables of caseload size, professional credentials, and years worked each contained 3 or more levels. No significant differences were found using the ANOVA or Post Hoc analyses. The following Tables 10 through 15 display tests conducted and determined results.

A one-way ANOVA showed the difference in the control variable of consumers per caseload with diagnosed chemical dependency influenced by the caseload size. As displayed in Table 20, no significant difference was found between the number of consumers per caseload and the proportion of consumers with a chemical dependency diagnosis.

Table 20

One-Way Analysis of Variance of Consumers with Diagnosed Chemical Dependency

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	2	.675	.338	.396	.675
Within groups	58	41.391	.852		
Total	60	50.066			

The one-way ANOVA in Table 21 shows the difference in the control variable of consumers per caseload with undiagnosed chemical dependency influenced by the caseload

size. The significance level ($p = 0.547$) is above 0.05 and therefore, there is no statistical significance.

Table 21

One-Way Analysis of Variance of Consumers with Undiagnosed Chemical Dependency

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	2	1.261	.631	.610	.547
Within groups	58	59.985	1.034		
Total	60	61.246			

Table 22 represents the combination of consumers with diagnosed and undiagnosed chemical dependency in relation to caseload size. Caseload size had not effect on the reported incidence rates of chemical dependency. The significance level ($p = 0.215$) is above 0.05 and therefore, there is no statistical significance.

Table 22

One-Way Analysis of Variance of Consumers with Diagnosed and Undiagnosed Chemical Dependency

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	2	700.3914	350.457	1.578	.215
Within groups	58	12885.152	222.158		
Total	60	13586.066			

Table 23 displays that ANOVA results of comparing diagnosed and undiagnosed chemical dependency incidence rates with professional credentials. The significance level ($p =. 0.351$) is above 0.05 and therefore, there is no statistical significance.

Table 23

One-Way Diagnosed and Undiagnosed Chemical Dependency

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	3	753.268	251.089	1.115	.351
Within groups	57	12932.798	225.137		
Total	60	13586.066			

Table 24 exhibits the between group differences of professional credentials and successful case closures. The significance level ($p = 0.629$) is above 0.05 and therefore, there is no statistical significance.

Table 24

One-Way Analysis of Successful Case Closures

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	4	2.483	.621	.650	.629
Within groups	55	52.517	.955		
Total	59	55.000			

Table 25 contains data revealing no significance between professional credentials and case closures combined with diagnosed and undiagnosed chemical dependency rates. The significance level ($p = 0.353$) is above 0.05 and therefore, there is no statistical significance.

Table 25

One-Way Analysis of Successful Case Closures, Diagnosed and Undiagnosed Chemical Dependency

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	4	2.450	.612	1.127	.353
Within groups	55	29.883	.543		
Total	59	32.333			

Summary

No significant data was extracted from the multiple chi-square, ANOVA, Post Hoc and *t* tests administered. Small trends were found in the analysis of years worked and the number of reported diagnosed and undiagnosed chemical dependencies per caseload. There was also a slight trend of increased undiagnosed chemical dependency occurrence rates for counselors with a master's in rehabilitation counseling. This may be due to the fact that the field of rehabilitation and addiction is an emerging area of expertise. The addition of training to equip rehabilitation professionals with awareness, knowledge and skills necessary to serve to consumers with co-occurring SUDs may increase the quality of service and improve employment outcomes.

Chapter V: Discussion

Data collected for this study was insufficient to determine the research question, "do master's level rehabilitation counselors who are credentialed as Certified Rehabilitation Counselors and Licensed Alcohol and Drug Counselors complete more successful case closures than counselors with only a CRC or have no certifications?" Due to the restraints of small sample size and surveying a non-probability sample of convenience, this study was unable to determine significance in professional credentials and case closures for consumers with co-occurring SUD. However, information extracted from this data remains useful in determining future suggestions for research and compliments existing findings concerning employment and counselor competency for consumers with co-occurring SUDs.

Prior research has suggested that specialty counselors in rehabilitation and addiction are more effective than rehabilitation counselors with general training (Glenn & Keferl, 2011). Several states employ specialty rehabilitation and addiction counselor caseloads (Moore et al., 2008) and it is recommended that research in counselor competency be continued within those state organizations. While this study was unable to measure the effectiveness LADC credentials in comparison to other credentials, Minnesota VRS may consider reviewing the benefits of specialty counselor caseloads within other agencies to improve service outcomes.

Consistent with prior research on counselor self-efficacy (Ong et al., 2008) and training in working with addictions, 95% of respondents in the present study specified that graduate programs should include addiction education into curriculum and 36% did not have any post-secondary addiction education. Results indicated 18% had zero hours of training on

addictions outside of graduate school, which is alarming. Though 64% of counselors reported that their graduate program curriculum included addiction, the question asked did not specify that nature, duration or quality of education in working with addictions. The topic of addiction may only be briefly included within a course which would not cultivate the necessary attitude, knowledge and skills for incoming rehabilitation professionals to be competent in addictions.

Data from this study revealed that approximately one in five, or 19.4%, of all consumers served among the analyzed caseloads, had either a SUD diagnosis or undiagnosed chemical dependency, indicating a need for competency in addictions. Elevated rates of addiction among VR consumers have been identified through several studies (Chronister et al., 2008; Hollar et al., 2008; McAweeney et al., 2008; Ong et al., 2008; Walls et al., 2009), reiterating the fact that vocational rehabilitation counselors are going to be working with consumers with addiction and co-occurring SUDs at high frequencies. Occurrence of SUDs within this study, while high, still fall slightly below previously reported incidence rates within VR state systems (RRTC, 1996; RRTC, 2004). A 2014 report by the Minnesota State Rehabilitation Council identified chemical dependency as contributing to only 1.5% of VRS counselor caseloads in Minnesota, which is well below the 3% to 10% national incidence range (US Department of Health and Human Services, 2006 as cited in Chronister et al., 2008, p. 33), and may account for the lower average of consumers with SUD per caseload within this study (Minnesota Department of Employment and Economic Development, 2014a).

Consistent with previous literature on youth with disabilities and chemical use (Moore & Hollar, 2004), this study found elevated rates of chemical dependency among transition caseloads. Approximately 86% (N = 12) of transition caseloads reported elevated rates of

chemical dependency. Transition caseloads serve consumers aged 16 to 21 so it is likely that large portion of SUDs reported are minors.

The results of this research present an optimistic outlook for Minnesota VRS in general. Little significance was found in relation to consumer employment outcomes compared to measured variables. Counselors reported consistent closure rates regardless of professional credentials, academic degree, years worked, caseload type or hours of addiction training. However, it is important to note the incidence rates of chemical dependency ranged drastically per caseload, between 0 (6.6% of respondents) and 50 (3.2% of respondents). The identification of chemical dependency within a caseload can be affected by a number of factors and should be researched further. One of the most significant trends revealed in this study was that counselors working for 10 years or less were more likely to report 0 consumers on their caseloads with an undiagnosed chemical dependency. This could be due to a lack of experience or professional training in working with and detecting chemical dependency.

Another area of interest in this study was the identification and presence of other co-occurring addictions beyond chemical dependency. Counselors in the current research revealed multiple other possible addiction diagnoses which may impact a consumer's well-being and VRS outcomes. Twenty counselors (32.8%) identified food as another addiction present on their caseload. Twenty-three percent of counselors recognized the presence of technology addiction among their consumers, 18.0% reported gambling addiction, 16.4% reported sex or porn addiction, and 16.4% identified other drug addictions besides alcohol. Shopping and hoarding were two other addictions recognized.

This study impacts consumers with co-occurring SUDs accessing VRS as well as instructs policy changes on a systemic level which will effect counselors, post-secondary programs, vocational services and federal guidelines. It has been proven consumers with a SUD can be as effective vocationally as persons without a SUD (Becker et al., 2005). Consumers with a co-occurring SUD should have access to vocational rehabilitation counselors that are qualified to assist them with employment in relation to their co-occurring disorder. Providing this population with specialty counselors who have LADC credentials enables a more effective and efficient working relationship (Glenn & Keferl, 2011). This allows for an integrative and holistic treatment approach which incorporates employment into the recovery process.

This exhaustive review of literature along with this research reveals the importance for rehabilitation counselors to adequately train in SUDs when working with consumers with co-occurring disorders. It is ethically imperative for counselors to have the appropriate knowledge and skillset to work effectively with this population.

According to the Code of Professional Ethics for Rehabilitation Counselors:

> Rehabilitation counselors practice in specialty areas new to them only after having obtained appropriate education, training, and supervised experience. While developing skills in new specialty areas, rehabilitation counselors take steps to ensure the competence of their work and to protect clients from possible harm. (Commission on Rehabilitation Counselor Certification, 2010, p. 11)

Though substance use disorders are becoming increasingly common in our society (source), addictions and substance use treatment are a specialty area of knowledge which requires additional training and education to thoroughly understand how to aptly assist those

consumers with comorbid SUDs. Rehabilitation counselors need to become competent in this area of counseling.

Leahy et al. (2003) have identified the importance of acknowledging changes in VR competency areas and intermittently assessing the evolving training needs of counselors in the 21st century (Leahy et al., 2003). Post-secondary institutions who adopt guidelines requiring rehabilitation counseling master's students to pursue LADC credentials will be developing ethically competent professionals and enhancing the field of vocational rehabilitation counseling. Scholars graduating from these master's programs will be highly qualified to work with consumers with dual diagnosis and will have access to more employment opportunities through an increase in credentials. There are currently only two graduate level programs in the United States which offer a dual master's for students in Rehabilitation and Addictions or Substance Abuse Counseling. Master's programs initiating a dual focus on rehabilitation and substance abuse counseling will have a competitive advantage by offering these educational and training opportunities for prospective students. They will also be demonstrating their commitment to developing competent professionals who will meet the needs within the evolving field of rehabilitation counseling.

Policy changes which improve the delivery of services to consumers with co-occurring SUDs will increase the number of successful case closures through VRS and allow them to increase the number of consumers served (Heineman et al., 2008; Moore et al., 2008). As the process becomes more efficient, consumers with co-occurring SUDs may achieve competitive employment in greater numbers and begin to rely less on state benefits to support themselves. The more people are participating and contributing to the economy, the more productivity

gains and economic returns we can expect for the community. “For every $1.00 VR spends on services, case management and administration, $8.90 goes back into Minnesota’s economy through wages earned by VRS participants” (Minnesota Department of Employment and Economic Development, 2014a, p. 8).

Calling for the dual certification of rehabilitation counselors as CRC and LADC is a primary objective of this research. An increase in certifications and licensures will improve professional standards (Harpster, Byers, Harris, 2011) and further establish the distinction of rehabilitation counselors as professionals with specialty knowledge and skills (Leahy et al., 2009) distinguishable from other forms of counseling. The recognition of addiction as a common co-occurrence with disability emphasizes the need for more centralized training by incoming rehabilitation professionals in this area of expertise. Rehabilitation counseling has struggled to define itself among other counseling professions (Chan, Sung, Muller, Brooks & Strand, 2011) in part, because of the diversity within the populations served (physical, cognitive, psychological, and developmental) and the variety of roles which fall within the sphere of rehabilitation (counselor, career counselor, case manager, vocational expert, rehabilitation medicine, forensics, workers compensation, benefits analysis, etc.). The incidence of addiction rates among consumers is another unifying factor within the field which requires specialized attention by rehabilitation professionals.

Limitations

This study was limited by several factors. A sample of convenience was selected based on pre-established relationships with Minnesota VRS. Two factors affect the generalizability of this study. First, Minnesota VRS has been identified as one of the leaders

in the country with regard to service delivery and employment outcomes. Second, VRS policies regarding serving consumers with co-occurring SUDs and primary SUDs vary from state to state. The number of successful case closures and self-reported incidence rates of consumers with chemical dependency measured in this study may reflect the effectiveness of Minnesota VRS services and specific Minnesota VRS policies. When looking at incidence rates of chemical dependency in particular, Minnesota reports slightly lower levels of this population than other states.

This study utilized a self-report questionnaire through Survey Monkey because it was economical and readily accessible. Due to self-reporting, the internal consistency of data extracted is limited and may not accurately reflect Minnesota VRS. Participants in this study were aware of the purpose of their self-reporting and may have been subject to the Hawthorne effect. Participants may have been inclined to present data which was either higher or lower than what exists in reality. The content validity of the survey developed for this study is also questionable. While the purpose of the survey was to collect enough data to determine if counselor credentials impacted case closure outcomes, the questions used in the survey could have been more appropriately structured.

External experimental validity is challenged with the interaction of selection and independent and dependent variables (Sheperis, Young, & Daniels, 2010). Sampling is dependent on access to Minnesota Vocational Rehabilitation Services and is not representative of the national vocational rehabilitation system as a whole. Findings are limited to vocational rehabilitation counselors in the state of Minnesota and should not be generalized for all state systems. This study also recognizes internal experimental validity through

interaction of selection and maturation (Sheperis et al., 2010). Counselors with varying levels of work experience were sampled indiscriminately without considering how number of years worked may impact data collected.

Recommendations for Future Research

Employment programs, integrated treatment methods, prevention techniques, training workshops and specialization have all emerged from research as applications for meeting the needs of this specialty population (RRTC, 2004). However, despite several studies and past focus on addictions and co-occurring SUDs within consumers accessing rehabilitation services (Chronister et al., 2008; Hollar et al., 2008; McAweeney et al., 2008; Ong et al., 2008; RRTC, 1996; RRTC 2004; Walls et al., 2009) disparities persist. It has been over a decade since the RRTC on Drugs and Disability ended (RRTC, 2004) and little has changed within VRS policies or graduate curriculum standards. It is imperative that research and clinical practice continue evolving to guarantee the quality of personnel charged with meeting the needs of this population.

This study sought to determine if LADC credentials improved successful closure outcomes and was unable to accomplish this goal due to inadequate sampling. This researcher suggests a national replication of this study within all 55 state and territorial VRS agencies in order to access the required number of counselors with LADC credentials to determine statistical significance regarding successful case closures. It is also encouraged to use a modified version of the survey used to include questions regarding: specific knowledge, skills, attitudes counselors possess to serve consumers with co-occurring SUDs and SUDs; how counselors view their working relationship with consumers with co-occurring SUDs and

SUDs; whether counselors believe addiction and chemical dependency impact vocational outcomes; if counselors project an increase in addiction and SUDs within their caseloads. In general, empirical research is crucial for understanding the relationships between this population, vocational rehabilitation counselor training, and successful employment outcomes. A national study on counselor competency should examine whether state level rehabilitation counselors have the necessary competencies to effectively assist consumers with co-occurring addiction disorders.

Organization policy has been shown to influence the services provided to consumers with SUD, as well as accurate identification of consumers with SUD by counselors for reporting (Moore et al., 2008). In conjunction with a national analyses of counselor competency, VRS policies need to be systematically examined, reviewed and critiqued to determine whether each state agency is proactively addressing this issue. An analysis of counselor competency in comparison to each state policy may reveal deficits to VRS administration seeking to improve services to all consumers. A compilation of current VRS policies can be utilized to determine the current national consensus in addiction policy and practices which will inform all federal-state policy makers.

Graduate program curriculum regarding training in addictions has been encouraged for decades (Baseford et al., 2002; Chronister et al., 2008; Doughty & Hunt, 1999; Leahy et al., 2003; Ong et al., 2007; West & Miller, 1999). Future research should investigate the current state of addictions training within graduate level rehabilitation counseling programs and determine if educators are adequately preparing future professionals to competently serve this population. There are currently two graduate programs in the country which offer dual

master's degrees in both rehabilitation and addiction counseling; (1) Psychiatric Rehabilitation and Substance Abuse Counseling at Springfield College, MA; (2) Rehabilitation and Addictions Counseling at St. Cloud State University, MN. Research should measure the competency of graduates from these unique programs in comparison to tradition rehabilitation counseling programs to determine the effectiveness of advanced addiction training and establish a curriculum model for replication within other universities.

After a review of literature, this author also suggests further investigation and implementation of SBI trainings to VRS counselors. SBI application has been found to effectively prevent chemical abuse from progressing into an SUD and SBI training may provide rehabilitation counselors with the adequate skills to better serve consumers with SUD. Areas to consider would be cost effectiveness, training efficiency and administrative support in providing SBI to consumers.

Finally, this study revealed the presence of a variety of addictions within counselor caseloads, including food, technology, gambling, sex and other drug use. Further researcher should investigate the impact of these other addictions on VRS outcomes as well as measure the readiness of incoming rehabilitation professionals in working with consumers with who have a variety of co-occurring addictions.

Conclusion

This study sought to determine whether master's level rehabilitation counselors credentialed as CRC and LADC, working for Minnesota Vocational Rehabilitation Services, have more successful case closures than vocational rehabilitation counselors with a CRC, no credentials or other degrees. It was hypothesized that vocational rehabilitation counselors will

be more effective and complete a greater number of successful case closures if they are both CRC and LADC credentialed. While this study was unsuccessful in procuring LADC credentialed rehabilitation counselors' participation, future studies can focus specifically on amending this issue. Credentialing counselors in both rehabilitation and addictions will be adequately train professionals to assist consumers with co-occurring SUDs and SUDs accessing VRS services. Employment outcomes for consumers with co-occurring SUDs will improve when they are working with these highly qualified counselors.

References

Basford, J. R., Rohe, D. E., Barnes, C. P., & DePompolo, R. W. (2002). Substance abuse attitudes and policies in us rehabilitation training programs: A comparison of 1985 and 2000. *Archives of Physical Medicine and Rehabilitation, 83,* 517-522.

Batiste, L. C. (2005a). Accommodation and compliance series: Employees with drug addiction. Retrieved February 3, 2016, from www.askjan.org/media/drugadd.html.

Batiste, L. C. (2005b). Accommodation and compliance series: Employees with alcoholism. Retrieved Febraruy 3, 2016, from www.askjan.org/media/downloads/AlcoholismA&CSeries.pdf.

Becker, D. R., Drake, R. E., & Naughton Jr., W. J. (2005). Supported employment for people with co-occurring disorders. *Psychiatric Rehabilitation Journal, 28*(4), 332-338.

Biegel, D. E., Beimers, D., Stevenson, L. D., Ronis, R. J., & Boyle, P. (2009). Predictors of referral to supported employment among consumers with co-occurring mental and substance use disorders. *Community Mental Health Journal, 45*(6), 427-438.

Biegel, D. E., Stevenson, L. D., Beimers, D., Ronis, R. J., & Boyle, P. (2010). Predictors of competitive employment among consumers with co-occurring mental and substance use disorders. *Research on Social Work Practice, 20*(2), 191-201.

Bombardier, C. H., Blake, K. D., Ehde, D. M., Gibbons, L. E., Moore, D., & Kraft, G. H. (2004). Alcohol and drug abuse among persons with multiple sclerosis. *Multiple Sclerosis Journal, 10,* 35-40.

Bond, G. R., Becker, D. R., Drake, R. E., Rapp, C. A., Meisler, N., Lehman, A. F., Bell, M. D., & Blyler, C. R. (2001). Implementing supported employment as an evidence-based practice. *Psychiatric Services, 52*(3), 313-322.

Bond, G. R., & Drake, R. E., (2008). Predictors of competitive employment among patients with schizophrenia. *Current Opinion in Psychiatry, 21*(4), 362-369.

Bond, G. R., Drake, R. E., & Becker, D. R. (2008). An update on randomized controlled trials of evidence-based supported employment. *Psychiatric Rehabilitation Journal, 31*, 280-290.

Brooks, G. I., DiNitto, D. M., Schaller, J., & Choi, N. G. (2014, September-October). Correlates of substance dependence among people with visual impairments. *Journal of Visual Impairments and Blindness,* pp. 428-433.

Brown, R. L., Leonard, T., Saunders, L. A., & Papasouliotis, O. (1998). The prevalence and detection of substance use disorders among inpatients ages 18 to 49: An opportunity for prevention. *Preventive Medicine, 27*(1), 101-110.

Chan, F., Sung, C., Muller, V., Brooks, J., & Strand, D. (2011). Professional identity and ethical behavior. In F. C. Chan, M. Bishop, J. Chronister, E. J. Lee, & C. Y. Chiu (Eds.), *Certified rehabilitation counselor examination preparation* (pp. 1-16). New York: Springer Publishing Company.

Cheng, H. G., & McBride, O. (2013). A prospective evaluation of disability associated with alcohol use disorders in the United States: An application of the quantile regression approach. *American Journal on Addictions, 22*(6), 551-557.

Christensen, M. H., Boisse, N., Sanchez, W., & Friedman, P. D. (2004). Enhancing vocational rehabilitation counselors' substance abuse screening and brief intervention practices. *Journal of Vocational Rehabilitation, 21,* 157-163.

Chronister, J., Chou, C. C., da Silva Cardoso, E., Sasson, J., Chan, F., & Tan, S. Y. (2008). Vocational services as intervention for substance abuse rehabilitation: Implications for addiction studies education. *Journal of Teaching in the Addictions, 7*(1), 31-56.

Commission on Rehabilitation Counselor Certification. (2010). *Code of Professional Ethics for Rehabilitation Counselors.* Retrieved from http://www.oregon.gov/dhs/vr/docs/crc-codeethics.pdf.

Corrigan, P. W., Mueser, K. T., Bond, G. R., Drake, R. E., & Solomon, P. (2008). *Principles and practice of psychiatric rehabilitation: An empirical approach*. New York: Guilford Press.

Cowell, A. J., Bray, J. W., & Hinde, J. M. (2011). The cost of screening and brief intervention in employee assistance programs. *Journal of Behavioral Health Services and Research, 39*(1), 55-67.

DeFulio, A., & Silverman, K. (2011). Employment-based abstinence reinforcement as a maintenance intervention for the treatment of cocaine dependence: Post-intervention outcomes. *Addiction, 106,* 960-967.

Doughty J. D., & Hunt, B. (1999). Counseling clients with dual disorders: Information for rehabilitation counselors. *Journal of Applied Rehabilitation Counseling, 30*(3), 3-10.

Drake, R. E., O'Neal, E. L., & Wallach, M. A. (2008) A systematic review of psychosocial research on psychosocial interventions for people with co-occurring severe mental and substance use disorders. *Journal of Substance Abuse Treatment, 34,* 123-138.

Drebing, C. E., Fleitas, R., Moore, A., Krebs, C., Van Ormer, A., Penk, W., Seibyl, C., & Rosenheck, R. (2002). Patterns in work functioning and vocational rehabilitation associated with coexisting psychiatric and substance use disorders. *Rehabilitation Counseling Bulletin, 46*(1), 5-13.

Dunn, E. C., Wewiorski, N. J., & Rogers, E. S. (2008). The meaning and importance of employment to people in recovery from serious mental illness: Results of a qualitative study. *Psychiatric Rehabilitation Journal, 32*(1), 59-62.

Embree, J. A. (2012). Prevalence of suicide attempts in a deaf population with co-occurring substance use disorder. *The Journal for Professionals Networking for Excellence in Service Delivery with Individuals who are Deaf and Hard of Hearing, 45*(2), 258-272.

Frounfelker, R. L., Wilkniss, S. M., Devitt, T. S., Bond, G. R., & Drake, R. E. (2011). Enrollment in supported employment services for clients with a co-occurring disorder. *Psychiatric Services, 62*(5), 545-547.

Glass, J. E., Kristjansson, S. D., & Bucholz, K. K. (2013). Perceived alcohol stigma: Factor structure and construct validation. *Alcoholism: Clinical and Experimental Research, 37*, E237-E246.

Glass, J. E., Mowbray, O. P., Link, B. G., Kristjansson, S. D., & Bucholz, K. (2013). Alcohol stigma and persistence of alcohol and other psychiatric disorders: A modified labeling theory approach. *Drug and Alcohol Dependence, 133*(2), 685-692.

Glenn, M. K., & Keferl, J. E. (2008). An exploratory investigation of rehabilitation counselors' perceived readiness to undertake substance use disorder screening in vocational rehabilitation. *Journal of Applied Rehabilitation Counseling, 39*(2), 37-42.

Glenn, M. K., & Keferl, J. E. (2011). Vocational rehabilitation outcome analysis of persons with substance use disorder: Results of a partnership and specialty counselor model. *Journal of Rehabilitation Administration, 35*(2), 53-59.

Harpster, A. M., Byers, K. L., Harris, L. L. (2011). CRC credential attainment by state vocational rehabilitation counselors. *Rehabilitation Education, 25*(1&2), 57-62.

Harris, L. M., Matthews, L. R., Penrose-Wall, J., Alam, A., & Jaworski, A. (2014). Perspectives on barriers to employment for job seekers with mental illness and additional substance use problems. *Health & Social Care in the Community, 22*(1), 67-77.

Heinemann, A. W., McAweeney, M., Lazowski, L. E., & Moore, D. (2008). Utilization of substance abuse screening by state vocational rehabilitation agencies. *Journal of Applied Rehabilitation Counseling, 39*(2), 5-11.

Hollar, D., & Moore, D. (2004). Relationship of substance use by students with disabilities to long term educational, employment, and social outcomes. *Substance Use Misuse, 39*(6), 931-962.

Hollar, D., McAweeney, M., & Moore, D. (2008). The relationship between substance use disorder and unsuccessful case closures in vocational rehabilitation agencies. *Journal of Applied Rehabilitation Counseling, 39*(3), 48-53.

Insel, T. R. (2008). Assessing the economic costs of serious mental illness. *Journal of Psychiatry, 165*(6), 703-711.

Janikowski, T. P., Lawrence, J. C., & Donnelly, J. P. (2007). The functional limitations of clients with coexisting disabilities. *Journal of Rehabilitation, 73*(4), 15-22.

Koch, D. S. (1999). Protections in federal rehabilitation legislation for persons with alcohol and other drug abuse disabilities. *Journal of Applied Rehabilitation Counseling, 30*(3), 29-34.

Kronenberg, L., Slager-Visscher, K., Goossens, P., van, d. B., & van Achterberg, T. (2014). Everyday life consequences of substance use in adult patients with a substance use disorder (SUD) and co-occurring attention deficit/hyperactivity disorder (ADHD) or autism spectrum disorder (ASD): A patient's perspective. *BMC Psychiatry, 14*(1), 1-18.

Larson, J. E., Sheehan, L., Ryan, C., Lemp, S., Drandorff, L. (2014). Practitioner perspectives on individual place and support (IPS) for individuals with serious mental illness. *Journal of Vocational Rehabilitation, 41,* 225-235.

Leahy, M. J., Chan, F., & Saunders, J. L. (2003). Job functions and knowledge requirements of certified rehabilitation counselors in the 21st century. *Rehabilitation Counseling Bulletin, 46*, 66-81.

Leahy, M.J., Muenzen, P., Saunders, J. L., & Strauser, D. (2009). Essential knowledge domains underlying effective rehabilitation counseling practice. *Rehabilitation Counseling Bulletin, 52*(2), 95-106.

Li, L., & Moore, D. (2001). Disability and illicit drug use: An application of labeling theory. *Deviant Behavior: And Interdisciplinary Journal, 22*, 1-21.

Marshall, T., Daniels, A. S., Ghose, S. S., George, P., Goldberg, R. W., Braude, L., & Delphin Rittmon, M. E. (2014). Supported employment: Assessing the evidence. *Psychiatric Services, 65*(1), 16-23.

Matthews, L. R., Harris, L. M., Jaworski, A., Alam, A., & Bozdag, G. (2013). Function in job seekers with mental illness and drug and alcohol problems who access community based disability employment services. *Disability & Rehabilitation, 35*(6), 460-467.

McAweeney, M., Keferl, J., Moore, D., & Wagner, J. (2008). Predictors of successful closure in the state-federal vocational rehabilitation system: Findings from a sample of persons with disability and substance use disorders. *Journal of Applied Rehabilitation Counseling, 39*(2), 30-36.

McHugo, G. J., Drake, R. E., Xie, H., & Bond, G. R. (2012). *A 10-year study of steady employment and non-vocational outcomes among people with serious mental illness and co-occurring substance use disorders.* Elsevier B.V.

Minnesota Department of Employment and Economic Development. (2011). *Case closures.* [DEED Policies] Retrieved from https://apps.deed.state.mn.us/ddp/PolicyDetail.aspx?pol=63.

Minnesota Department of Employment and Economic Development. (2012). *Status and evaluation of employment support services for persons with mental illness*. (Report to Legislature 268A.13). St. Paul, MN: Claire T. Courtney.

Minnesota Department of Employment and Economic Development. (2014a). *Minnesota State Rehabilitation Council–General–Annual Report.* (DEED). Minneapolis, MN: Gail Lundeen.

Minnesota Department of Employment and Economic Development. (2014b). *State plan for the State Vocational Rehabilitation Services program and state plan supplement for the state supported employment services program, Minnesota Vocational Rehabilitation Services State Plan for Fiscal Year 2015* (DEED). Minneapolis, MN: Kimberly T. Peck.

Moore, J. (2012). Dual diagnosis: Training needs and attitudes of nursing staff. *Mental Health Practice, 16*(6), 27-31.

Moore, D., McAweeney, M., Keferl, J., Glenn, M., & Ford, J. A. (2008). Policy issues in vocational rehabilitation related to consumers with substance use disorders. *Journal of Applied Rehabilitation Counseling, 39*(2), 12-18.

Mueser, K. T., & Drake, R. E. (2007). Comorbidity: What have we learned and where are we going? *Clinical Psychology: Science and Practice, 14*(1), 64-70.

Mueser, K. T., Drake, R. E., & Campbell, K. (2011). The effectiveness of supported employment in people with dual disorders. *Journal of Dual Diagnosis, 7*(1-2), 90-102.

National Alliance on Mental Illness (NAMI). (2010). *Mental illness and diagnosis.* Retrieved from http://www2.nami.org/Content/NavigationMenu/Inform_Yourself/About_Mental_Illnes_By_Illness/Dual_Diagnosis_Substance_Abuse_and_Mental_Illness.htm.

Ong, L. Z., Cardoso, E., Chan, F., Chronister, J., & Chou, C. C. (2007). Training needs of rehabilitation counselors concerning alcohol and other drugs abuse assessment and treatment. *Rehabilitation Education, 21*(3), 179-186.

Ong, L. Z., Lee, D. Y., Cha, G., & Arokiasamy, C. (2008). Training needs for substance abuse treatment and assessment among rehabilitation counselors: California state project. *Journal of Teaching in the Addictions, 7*(2), 109-122.

Pescosolido, B. A., Martin, J. K., Long, J. S., Medina, T. R., Phelan, J. C., & Link, B. G. (2010). "A disease like any other"? A decade of change in public reactions to schizophrenia, depression, and alcohol dependence. *American Journal of Psychiatry, 167*(11), 1321-1330.

Platt, J. J. (1995). Vocational rehabilitation of drug abusers. *Psychological Bulletin, 117,* 416-433.

Rehabilitation Research and Training Center on Disability Demographics and Statistics. (2006). *A guide to disability statistics from the current population survey–annual social and economic supplement.* Cornell University, Ithaca, NY: R. V. Burkhauser, A. Houtenville.

Rehabilitation Research and Training Centre on Drugs and Disability (RRTC). (1996*). Substance abuse, disability, and vocational rehabilitation*. Dayton, OH: Wright State University.

Rehabilitation Research and Training Center on Drugs and Disability. (RRTC). (2004). *Final report summary for RRTC on drugs and disability*. Dayton, OH: Wright State

University School of Medicine. Retrieved on February 2, 2016 from http://medicine.wright.edu/sites/default/files/page/attachments/pdf_technicalfinalreport.

Rinaldi, M., Miller, L., & Perkins, R. (2010). Implementing the individual placement and support (IPS) approach for people with mental health conditions in England. *International Review of Psychiatry, 22*(2), 163-172.

Rogers, N. L., Embree, J. A., Masoudi, N., Huber, M., Ford, J. A., & Moore, D. (2011). Consumer perspectives on reasons for unsuccessful VR case closure: An exploratory study. *Journal of Vocational Rehabilitation, 34*(3), 151-161.

Schutt, R. K., & Hursh, N. C. (2009). Influences on job retention among homeless persons with substance abuse or psychiatric disabilities. *Journal of Sociology & Social Welfare, 36*(4), 53-73.

Sheidow, A. J., McCart, M., Zajac, K., & Davis, M. (2012). Prevalence and impact of substance use among emerging adults with serious mental health conditions. *Psychiatric Rehabilitation Journal, 35*(3), 235-243.

Shepard, D. S., & Reif, S. (2004). The value of vocational rehabilitation in substance user treatment: A cost-effectiveness framework. *Substance Use and Misuse, 39*(13 & 14), 2581-2609.

Sheperis, C. J., Young, J. S., & Daniels, M. H. (2010). *Counseling Research: Quantitative, qualitative, and mixed methods*. Upper Saddle River, NJ: Pearson Education, Inc.

Slayter, E. (2010). Medicaid-covered alcohol and drug treatment use among people with intellectual disabilities: Evidence of disparities. *Intellectual and Developmental Disabilities, 48*(5), 361-374.

Strickler, D. C., Whitley, R., Becker, D. R., & Drake, R. E. (2009). First person accounts of long-term employment activity among people with dual diagnosis. *Psychiatric Rehabilitation Journal, 32*(4), 261-268.

Stroud, M. W., Bombardier, C. H., Dyer, J. R., Esselman, P. C., & Rimmele, C. T. (2011). Preinjury alcohol and drug use among persons with spinal cord injury: Implications for rehabilitation. *Journal of Spinal Cord Medicine, 34*(5), 461-472.

Tansey, T. N., Chan, F., Chou, C. C., & da Silva Cardoso, E. (2004). Perspectives of rehabilitation counselors in psychiatric settings: Critical issues and training needs. *Rehabilitation Education, 18*(1), 39-47.

Walls, R. T., Batiste, L. C., Moore, L. C., & Loy, B. (2009). Vocational rehabilitation and job accommodations for individuals with substance abuse disorder. *Journal of Rehabilitation,75*(4), 35-44.

Webster, J. M., Staton-Tindall, M., Dickson, M. F., Wilson, J. F., & Leukefeld, C. G. (2014). Twelve-month employment intervention outcomes for drug-involved offenders. *The American Journal of Drug and Alcohol Abuse, 40*(3), 200-205.

West, S. L., & Miller, J. H. (1999). Comparisons of vocational rehabilitation counselors' attitudes toward substance abusers. *Journal of Applied Rehabilitation Counseling, 30*(4), 33-37.

World Health Organization. (2008). *The global burden of disease: 2004 update*. Geneva, Switzerland: WHO Press.

Wüsthoff, L. E., Waal, H., & Gråwe, R. W. (2014). The effectiveness of integrated treatment in patients with substance use disorders co-occurring with anxiety and/or depression–a group randomized trial. *BMC Psychiatry, 14*(1), 1-26.