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Individualized Plan for Employment Development for Individuals with Psychiatric Disabilities: Recommendations for State Vocational Rehabilitation Administrators

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State Vocational rehabilitation (VR) Rehabilitation Services Administration (RSA) 911 data from fiscal year 2019 were used to evaluate the use of assessment services for eligibility determination and Individualized Plan for Employment (IPE) development for participants with psychiatric disabilities served in State VR agencies. Participants who received the State VR assessment service from a provider outside of the State VR agency were significantly more likely to obtain employment than those who did not receive an assessment service or only received assessment services within the State VR agency, $\chi 2$ (1, N = 49,527) = 29.98, $p < .001$. The effect size was small, d = .03. A binary logistic regression analysis was conducted with a smaller sample of cases in which participants were served by State VR agencies who used the Aware case management system for reporting data to RSA. Participants who received the State VR assessment service from an outside provider were significantly more likely to obtain employment compared to those who did not receive this service (OR = 1.55, 95% CI: 1.12, 2.14, p=.01). Rehabilitation professionals who are certified by the Commission on Rehabilitation Counseling Certification (CRCC) and have completed additional training in the Individual Placement and Support (IPS) model are most qualified to provide the State VR assessment service to develop a State VR IPE with this population. State VR administrators should partner with these qualified professionals to help State VR participants with psychiatric disabilities develop an IPE that leads to competitive, integrated employment.

Keywords: RSA-911, psychiatric disabilities, vocational rehabilitation, employment, certified rehabilitation counselor

Individualized Plan for Employment Development: Recommendations for State Vocational Rehabilitation Administrators

The benefits of employment for people with psychiatric disabilities have been well-documented within the literature (Aichner, 2021; Kirwin & Ettinger, 2022; Lindsay et al., 2018; Modini et al., 2016). Despite the known advantages of employment (e.g., higher quality of life, lower impact of men-

tal health symptoms, financial security), people with psychiatric disabilities continue to experience employment-related barriers that result in lower labor force participation rates (Parker Harris et al., 2019; U.S. Department of Labor, 2023).

There are significant disparities in employment for individuals with psychiatric disabilities compared to those with no disabilities or other types of disabilities (Parker Harris et al., 2019; Peterson & Olney, 2021). Only 38.1% of adults with significant psychiatric disabilities are employed full-time compared to 61.7% of adults without disabilities (Parker Harris et al., 2019). Specialized programs such as vocational rehabilitation (VR) have been utilized to identify jobs for people with psychiatric disabilities that are consistent with their strengths, resources, capabilities, and interests so that they may prepare for and engage in competitive integrated employment or supported employment to achieve economic self-sufficiency (Hartley & Tarvydas, 2022). Sadly, disparity in employment rates for people with psychiatric disabilities as compared to those without psychiatric disabilities served in the State VR service-delivery system have continued to exist for decades (Peterson & Olney, 2021).

State VR Employment Outcomes & Psychiatric Disabilities

In the State VR system, eligibility for job placement is determined based on disability and the desire for employment, and services are typically rendered to those with the most severe disability. With all services being individualized, State VR counselors and clients work together to establish an Individualized Plan for Employment (IPE) that takes the client's interests, functional abilities, education, and employment goal into account and identifies the services and supports needed to secure employment (Federal Code of Regulations, 2021; Hartley & Tarvydas, 2022; Wilson et al., 2018). IPEs may include vocational training, job placement, on the job training (OJT), benefits counseling, transportation services, assistive technology, and other services specifically related to the individual's disability and preferences (Federal Code of Regulations, 2021; RSA, 2017).

State VR agencies all receive federal funding from the U.S. Department of Education's Office of Special Education and Rehabilitative Services under the RSA (U.S. Department of Education, 2021). This funding provides for vocational and other services to individuals with disabilities across the nation (U.S. Department of Education, 2019). The RSA collects data from all State VR agencies on participant demographics, the services provided, and employment outcomes (RSA, 2021). The RSA-911 data are available and are used by researchers to examine trends (e.g., program enrollment, employment outcome rates of program participants), what services were provided (e.g., assistive technology, vocational training, job placement assistance), influences on these trends, and to provide recommendations on how to best train future State VR counselors enrolled in VR academic programs (RSA, 2021; Sprong et al., 2019). Assessment services are the only services that are provided to State VR clients pre-IPE, and all other VR services leading to employment for clients must be provided under an approved IPE. Also captured in the RSA-911 data are information pertaining to case closure (e.g., employed at exit from State VR services) or other information that led to exit from State VR services.

Evidence-Based Practices for Individuals with Psychiatric Disabilities

IPS Model Supported Employment and Supported Education

The Individual Placement and Support (IPS) model of supported employment has been considered the most well-researched and evidence-based approach for individuals with serious psychiatric disabilities who are seeking employment (Bond et al., 2023; Frederick & VanderWeele, 2019). Basic principles of the IPS model include zero exclusion for eligibility, promoting client choice, rapid job search, competitive employment, integration of vocational and mental health services, benefits counseling, and time unlimited individual support (Bond, 2016; Bond et al., 2011; Drake, 2020; Drake et al., 2012; Drake et al., 1999; Drake et al., 2016, Rubin et al., 2020, Shields et al., 2020).

The IPS Supported Education (SEd) model has emerged from the IPS supported employment model within the rehabilitation counseling and psychiatric rehabilitation disciplines over the past decade

(Ringeisen et al., 2017; Smith-Osborne, 2012). SEd similarly promotes the principles of zero exclusion for eligibility, rapid engagement in mainstream education programs, a team approach to mental health services that are integrated within the education program, and individualized supports based on the student's desires (IPS Employment Center, 2023). SEd approaches support students with psychiatric disabilities in achieving academic goals, increasing self-efficacy, and improving their social networks (Reddy et al., 2021). SEd practices are provided by specialized staff members who promote a culture where mental health issues are free from stigma, encourage student linkages with mental health counseling services, and promote recovery to help students improve their motivation to achieve their educational and vocational goals (Ringeisen et al., 2017).

Evidence-Based ACT and CSC Case Management Strategies

Additionally, evidence-based case management strategies for assisting individuals with serious psychiatric disabilities have emerged over the past 30 years. Assertive Community Treatment (ACT) is a case management approach that VR counselors can use with clients in the early stages of recovery to support stable housing and treatment for co-occurring SUD and other psychiatric disabilities (SAMHSA, 2021). Coordinated Specialty Care (CSC) is a multidisciplinary team approach to providing services for young adults with mental illness (Powell et al., 2021; Read & Kohrt, 2021; SAMHSA, 2019). Programs that follow the CSC model provide evidence-based psychosocial interventions with teams that include licensed primary clinicians, supported education and employment specialists, and nurses. CSC programs have reduced gaps in treatment between child and adult mental health programs, reduced hospitalization rates, and improved education and employment rates for youth who had experienced an episode of psychosis (Goldstein & Azrin, 2014; Nossel et al., 2018; Read & Kohrt, 2021, SAMHSA, 2019).

Providing for stronger collaboration with mental health service providers in the community, promoting ACT and CSC model case management approaches, and offering IPS model practices such as OJT, benefits counseling, and SEd approaches within the State VR service-delivery system has the potential to significantly improve employment outcomes for participants in State VR (Leahy et al., 2018; Peterson & Alkhadim, 2023; Peterson et al., 2021; SAMHSA, 2010; SAMHSA, 2014; SAMHSA, 2020; SAMHSA, 2021).

Variables in the RSA-911 Data that Describe Evidence-Based Approaches

Over 300 variables are captured in the RSA-911 data that describe participant demographics, disability status, VR services provided, funding sources, dates, movement through case management stages, employment outcomes, and collaboration with other community resources for nearly 500,000 participants who exit the State VR service-delivery system each year (Peterson & Olney, 2021; RSA, 2017; RSA 2021). The caseload size for a State VR counselor is large, with an estimated average size of approximately 150 clients (Dew et al., 2008; Wilson et al., 2018). State VR counselors provide evidence-based case management and VR services that include screening/eligibility determination; assessment for rehabilitation plan development; vocational training; job placement, job retention and support services; monitoring and evaluation; and case closure documentation, which are captured in the RSA-911 data (Hartley & Tarvydas, 2022; RSA, 2021; Pruett et al., 2008; Roessler et al., 2018; Wilson et al., 2018).

The State VR Assessment Service

The State VR assessment service is different from traditional clinical assessment services that are provided for individuals with psychiatric disabilities such as diagnosis and psychological testing. Services provided to diagnose and treat a disability are a separate service in the State VR system (RSA, 2017). The State VR assessment service is unique in that the services are intended to assist the client and VR counselor to determine eligibility and develop the IPE (RSA, 2017). The State VR assessment service is an important part of IPE development (Escorpizo et al., 2016). The following assertion is noted in the RSA reporting manual:

> Assessment means services provided and activities performed to determine an individual's eligibility for VR services, to assign an individual to a priority category of a VR program that operates under an order of selection, and/or to determine the nature and scope of VR services to be included in the IPE (RSA, 2017, pp. 75-76).

Caseload Sizes and Providing IPS Model Services with Fidelity

The principles and practices of IPS have not been utilized effectively within the State VR system (Bond & Drake, 2017; Bond et al., 2020; Drake et al., 2016; Leahy et al., 2018; Peterson et al., 2021; Peterson & Alkhadim, 2023; Peterson & Olney, 2021). Traditional VR services use a "train and place" approach (e.g., vocational training at community college followed by job placement services). The evidence-based IPS model of supported employment uses a "place and train" approach where individuals with psychiatric disabilities receive training on the job (Dowler & Walls, 2014; Drake et al., 2012; Peterson et al., 2021). The State VR On-the-Job Training (OJT) service provides a potential vehicle for offering one of the practices of IPS within State VR agencies, but has been significantly underutilized to date (Peterson et al., 2021).

State VR is not prepared to provide evidence-based IPS model supported employment services with fidelity. Experts have established that the typical caseload size for a State VR counselor is well over 100 clients (Dew et al., 2008; Wilson et al., 2018). Because of the intensive support that is needed to help clients with a serious psychiatric disability to find and keep a job, providers that have implemented the IPS model are evaluated on the fidelity review checklist (Becker et al., 2015). IPS job developers assist no more than 15-20 clients at one time as one metric to determine if a program implementing IPS is demonstrating high fidelity (IPS Employment Center, 2023).

The IPS model of supported employment approach promotes rapid job placement. Lengthy clinical diagnostic services such as extensive psychometric testing and work tolerance screening practices are avoided under this model (IPS Employment Center, 2023). State VR counselors can use the State VR assessment service to provide immediate IPS model assistance to participants with psychiatric disabilities. Professionals trained in the IPS model and other evidence-based strategies for participants with psychiatric disabilities can be authorized by State VR counselors to assist participants with development of the IPE and service coordination. IPS model supported employment services can be provided by these professionals immediately, including helping the client to develop their IPE employment goal, list the integrated mental health and vocational services needed to reach their employment goal, and list the employer who will provide a job and OJT for the client. When a State VR counselor authorizes a qualified professional outside of the State VR agency to provide assessment services, the professional can take the time needed to counsel the client, explain the IPE development process, recommend evidence-based strategies, and communicate to the State VR counselor the specific job goal and services that the client would like to have included in their IPE.

It is possible to identify cases in the RSA data where the participant received the State VR assessment service from a provider outside of the VR agency (RSA, 2017). Some states provide financial incentives to employers who agree to train State VR participants using the State VR OJT service (California Code of Regulations, 2022a; California Code of Regulations, 2022b; Minnesota Department of Employment and Economic Development, 2021). State VR counselors can partner with qualified professionals or other partner agencies in the community to provide individualized IPS model services with fidelity, including the establishment of an OJT service with an employer in the community.

Professional Credentials Needed to Provide Quality IPE Development Services for State VR Participants with Psychiatric Disabilities

The Certified Rehabilitation Counselor (CRC) certification is a testament to the holder's comprehensive understanding and proficiency in various knowledge domains crucial to the field of rehabilitation counseling. The importance of this certification is underscored by the breadth and depth of competencies it encompasses, particularly those relevant to serving individuals with psychiatric disabilities (Commission on Rehabilitation Counselor Certification [CRCC], 2020). Counseling theories/tech-

niques knowledge domain, for instance, outlines several competencies integral to effective service. These include the ability to utilize individual counseling practices, interventions, and techniques, understanding substance use and treatment, dual diagnosis and co-occurring disorders. Furthermore, CRCs are expected to understand and provide counseling/training to help clients develop workplace socialization skills, with the IPS model being particularly relevant in this regard. Proficiency in motivational interviewing and the ability to facilitate treatment planning for clinical conditions such as depression, anxiety, and PTSD are also emphasized. It is noteworthy that the integration of mental health treatments with vocational services is a critical aspect of this process, and such integration should be clearly outlined in the IPE (CRCC, 2020).

In addition to these competencies, CRCs are expected to uphold professional ethical standards for rehabilitation counselors and manage risk. They must understand and apply laws and public policy affecting individuals with disabilities, advocate for diversity, understand, and apply appropriate services that address multicultural counseling issues (Hartley & Tarvydas, 2022). They should also understand and apply appropriate rehabilitation terminology and concepts, understand the differing professional roles, functions, and effective relationships with other providers and professionals, and understand the credentialing issues related to the rehabilitation counseling profession and advocate for appropriate solutions (Aliff & Sprong, 2020).

Furthermore, CRCs are expected to understand the differing organizational structures of rehabilitation counseling practice settings; understand, synthesize, and apply knowledge of historical and philosophical foundations of rehabilitation counseling; apply clinical problem-solving and critical-thinking skills; and understand rehabilitation techniques for individuals with disabilities (Aliff & Sprong, 2020).

These competencies underscore the significance of the role of CRCs in the field of rehabilitation counseling. Their expertise and skills are instrumental in providing the necessary support and guidance to clients with psychiatric disabilities, thereby enabling them to navigate their vocational and personal challenges effectively. The competencies associated with the CRC certification, therefore, not only enhance the quality of service provided to clients, but also contribute to the broader field of rehabilitation counseling.

Professionals who hold master's degrees in Rehabilitation Counseling, are certified by the CRCC, and have completed additional training in the IPS model are most qualified to provide appropriate IPE development services for State VR clients with psychiatric disabilities (CRCC, 2021; IPS Employment Center, 2023; Peterson & Olney, 2021).

Purpose

The purpose of the current study was to assess whether utilization of the State VR assessment service with an outside provider improved employment outcomes for participants with psychiatric disabilities enrolled in State VR. To provide context for our findings, prior research on disparities in service-delivery and employment outcomes, how this population has been described, how these cases have been captured for analysis in the RSA-911 data, and the recommendations that have been made to improve vocational outcomes for this population was shared. Recommendations for VR counselor training as well as the implementation of evidence-based practices that will lead to improved vocational outcomes for this population, such as utilization of IPS model supported employment services, have been discussed.

Recommendations for better use of evidence-based State VR assessment and vocational services for this population have been provided. Suggestions for VR counselor training, and recommendations for qualified professionals outside of the State VR system who can be utilized to provide quality IPE development services have been shared. Based on the review of the literature and an understanding of the State VR service-delivery system, two research questions were used to guide the current study:

> RQ 1: How do demographic factors affect the employment outcomes of participants with psychiatric disabilities served in State VR agencies?

RQ 2: Was receipt of the VR assessment service from a provider outside of the VR agency a predictor of employment after controlling for demographic factors?

VR agencies serve individuals with psychiatric disabilities, VR counselors have high caseloads, and VR counselors are encouraged to develop an IPE with their clients that includes evidence-based services. Therefore, we hypothesized that receipt of the VR assessment service by an outside provider who may have provided more individualized support to determine eligibility and develop the IPE would be a predictor of successful employment outcomes for this population.

Methods

Participants

Data for the analyses in this study were extracted from the U.S. Department of Education RSA-911 database fiscal year 2019. The demographic and State VR service characteristics of the sample are presented in Table 1.

Table 1

Demographic and VR Service Characteristics of Participants with Psychiatric Disabilities Served in All State VR Agencies, N = 49,527

Variable	n (%)	Mean (*SD*)
Age at application (in years)		34.68 (11.27)
Gender:		
Male	25,328 (51.1)	
Female	24,199 (48.9)	
Race/ethnicity:		
White	34,480 (69.6)	
Black or African American	13,903 (28.1)	
Hispanic	5,806 (11.7)	
American Indian or Alaska Native	1,317 (2.7)	
Asian	1,013 (2.0)	
Native Hawaiian or Other Pacific Islander	263 (0.5)	
Veteran	1,549 (3.1)	
Education at application		
Less than high school	15,311 (30.9)	
Completed high school and/or higher education	34,216 (69.1)	
Was receiving SSI/SSDI benefits at intake	13,304 (26.9)	
Was involved in the criminal/juvenile justice system	14,341 (29.0)	
Disabilities coded:		
Alcohol Use Disorder	4,468 (9.0)	
Drug Use Disorder	9,809 (19.8)	
Anxiety Disorder	17,740 (35.8)	

Depression or other Mood Disorder	28,276 (57.1)	
Personality Disorder	3,657 (7.4)	
Eating Disorder	111 (0.2)	
Other Mental Illness	4,761 (9.6)	
A secondary psychiatric disability was coded in addition to the primary psychiatric disability	28,643 (57.8)	
Case service characteristics: Length of State VR case in days		690.83 (600.05)
Received an assessment service from a provider outside of the State VR agency	5,874 (11.9)	
Received an assessment service from staff within the State VR agency only	6,022 (12.2)	
Did not receive any assessment service at all	37,631 (76.0)	
Received any kind of vocational or educational training	2,907 (5.9)	
Received an OJT service	409 (0.8)	
Received benefits counseling	2,400 (4.8)	
Received supported employment and/or job coaching	8,607 (17.4)	
Received any kind of job search or job placement service	21,186 (42.8)	
Received pre-employment services	539 (1.1)	
Received transportation services	8,821 (17.8)	
Received maintenance services	6,673 (13.5)	
Employment status at case closure:		
Employed in competitive, integrated employment	18,809 (38.0)	
Not employed	30,718 (62.0)	

Study Design and Method

The data were cleaned. The age range 16-64 is commonly considered to be the working-age population (U.S. Department of Labor, 2023). Therefore, participants between 16 and 55 years of age at the time of intake for State VR services were included, and cases that were open more than 10 years were excluded. Only cases in which the participant received services as part of an IPE were included. Cases in which the participant had a psychiatric disability (i.e., anxiety disorder, depression/mood disorder, schizophrenia spectrum disorder, personality disorder, substance use disorder, eating disorder, other mental illness) were included. In order to avoid the impact of additional functional limitations on employment outcomes in the analyses, cases in which the participant was coded with a secondary sensory, physical, or another type of cognitive/mental disability were excluded. Cases in which the participant was coded as closed successfully employed in competitive, integrated employment but were coded as working zero hours a week and/or for less than $7.25 per hour were excluded because working zero hours and/or earning less than minimum wage does not satisfy the criteria set forth by RSA (2017) for competitive, integrated employment.

A chi-square analysis was conducted with the large sample of participants with psychiatric disabilities served in all State VR agencies described in Table 1, N = 49,527. An additional smaller data set was cre-

ated from the large sample in order to perform more rigorous binary logistic regression analyses, and these participants have been described in Table 2, n = 4,810. The dependent variable in both analyses was the employment status of the participants at case closure. A successful employment closure is defined in the RSA-911 reporting manual as exiting the State VR service-delivery system having achieved competitive and integrated employment or supported employment after receiving IPE services.

Results

Descriptive Statistics and Data Analyses

Data extracted from the RSA-911 data set were analyzed using SPSS 28.0. Frequency distributions of participant characteristics have been shared in Tables 1 and 2. A chi-square test of independence was performed to evaluate the relationship between employment outcome and participation in a State VR assessment service with a provider outside of the State VR agency. The 6,022 (12.2%) participants who received an assessment service from a provider outside of the State VR agency were significantly more likely to obtain employment than the 43,505 (87.8%) of participants who did not receive an assessment service or only received assessment services within the State VR agency, χ^2 (1, N = 49,527) = 29.98, $p < .001$. The effect size was small, d = .03. (See Figure 1).

Binary Logistic Regression Analysis

In order to conduct a more rigorous analysis of the impact of the State VR assessment service on employment outcomes for participants with psychiatric disabilities, a smaller data set was created. To create the smaller data set, participant cases from one state from the west coast and one state from the east coast that had been using the Aware Enterprise and Aware Express case management systems in their State VR agency for at least four years prior to 2019 were identified. Aware case management systems were designed to assist State VR agencies to provide more accurate case service delivery data to RSA (Aware, 2023).

Figure 1

Results of the Chi-Square Analysis (N=49,527)

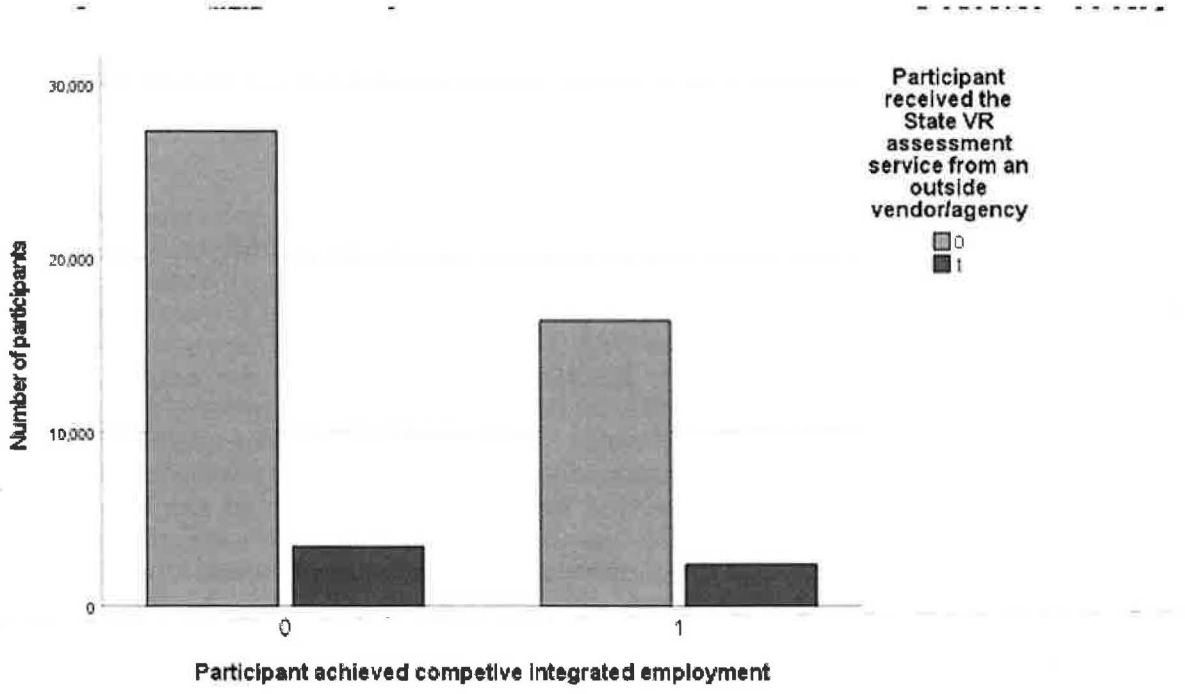

Table 2

Demographic and VR Service Characteristics of the Participants Served in State VR Agencies Using the Aware Case Management System, n = 4,810

Variable	n (%)	Mean (*SD*)
Age at application (in years)		35.02 (11.03)
Gender:		
Male	2,581 (53.7)	
Female	2,999 (46.3)	
Race/ethnicity:		
White	3,504 (72.8)	
Black or African American	961 (20.0)	
Hispanic	1,619 (33.7)	
American Indian or Alaska Native	184 (3.8)	
Asian	353 (7.3)	
Native Hawaiian or Other Pacific Islander	31 (0.6)	
Veteran	163 (3.4)	
Education at application:		
Less than high school	1,945 (40.4)	
Completed high school and/or higher education	2,865 (59.6)	
Was receiving SSI/SSDI benefits at intake	1,290 (26.8)	
Was involved in the criminal/juvenile justice system	1,563 (32.5)	
Disabilities coded:		
Alcohol Use Disorder	294 (6.1)	
Drug Use Disorder	641 (13.3)	
Anxiety Disorder	1,559 (32.4)	
Depression or other Mood Disorder	2,729 (56.7)	
Personality Disorder	164 (3.4)	
Eating Disorder	10 (0.2)	
Other Mental Illness	471 (9.8)	
A secondary psychiatric disability was coded in addition to the primary psychiatric disability	2,082 (43.3)	
Case service characteristics: Length of State VR case in days		618.29 (514.18)
Received an assessment service from a provider outside of the State VR agency	162 (3.4)	
Received an assessment service from staff within the State VR agency only	0 (0)	
Did not receive any assessment service at all	4,648 (96.6)	

Received any kind of vocational or educational training	291 (6.0)	
Received an OJT service	11 (0.2)	
Received benefits counseling	0 (0)	
Received supported employment and/or job coaching	566 (11.8)	
Received any kind of job search or job placement service	1,250 (26.0)	
Received pre-employment services	3 (0.1)	
Received transportation services	1,502 (31.2)	
Received maintenance services	733 (15.2)	
Employment status at case closure: Employed in competitive, integrated employment Not employed	 1,964 (40.8) 2,846 (59.2)	

In the binary logistic regression analysis, the outcome variable was employment status at case closure: 1) the participant achieved competitive integrated employment for a minimum of 90 days, or 2) the participant was not employed in competitive integrated employment.

Two sets of predictor variables were used for this analysis. The first set of predictor variables included personal characteristics: biological sex (male or female), age at application, race (White or non-White), education level at intake (less than high school or high school degree or higher), receipt of Social Security disability benefits at intake, and criminal/juvenile legal system involvement status. The second set of predictor variables included VR service characteristics: 1) Receipt of the State VR assessment service for eligibility and IPE development from a provider outside of the State VR agency and 2) length of enrollment in State VR (i.e., number of days). All variables had low multicollinearity with a Variance Inflation Factor (VIF) of less than five (James et al., 2017).

In the preliminary analysis, the demographic variables of sex, age, receipt of Social Security disability benefits at intake, and involvement in the criminal/juvenile legal system were the only significant predictors of employment. The 2,229 participants who were female were .79 times less likely to obtain employment than the females (OR = .79, 95% CI: .70, .89, $p<.001$). The 1,290 participants who were receiving Social Security disability benefits at intake were about half as likely to obtain employment compared to those who were not receiving these benefits (OR = .49, 95% CI: .42, .56, $p<.001$). The odds of 1,563 participants who were involved with the criminal/juvenile legal system at application for State VR services obtaining employment were 1.16 times greater than the odds of those who had no legal system involvement (OR = 1.16, 95% CI: 1.01, 1.32, $p=.03$). Older participants were slightly more likely to obtain employment (OR = 1.01, 95% CI: 1.01, 1.02, $p<.001$). The average age of the 1,964 participants who obtained employment ($M=35.92$, $SD=10.62$) was slightly higher than the average age of the 2,846 participants who did not obtain employment ($M=34.4$, $SD=11.26$).

For the final logistic regression model the significant predictor variables from the preliminary analysis were retained. In the final logistic regression model sex, age at application, involvement in the legal system, and receipt of Social Security disability benefits were entered. Additionally, two variables for VR service characteristics were entered as predictors of successful employment. These variables were the State VR assessment service from a provider outside the State VR agency and a variable indicating the length of the case in days.

The omnibus test for the final logistic regression model was found to be statistically significant, χ^2 (6, n = 4,810) = 216.21, $p < .001$. The Nagelkerke R^2 was computed to be 0.06, indicating a small effect size. The Hosmer and Lemeshow goodness-of-fit test was not significant, χ^2 (8, n = 4,810) = 12.44 (p = 0.13), indicating that the model fit the data reasonably well.

The assessment service was found to significantly impact employment outcomes. Participants who received the State VR assessment service from a provider outside of the State VR agency were about 1.5 times as likely to obtain employment compared to those who did not receive this service (OR = 1.55, 95% CI: 1.12, 2.14, p=.01). Involvement with the criminal/juvenile legal system at application for State VR services was not a significant predictor of employment in the final analysis. Older participants were slightly more likely to obtain employment (OR = 1.02, 95% CI: 1.01, 1.02, p<.001). The length of the case and age did not appear to be clinically significant predictors of obtaining employment, although the analysis indicated these predictor variables were significant. This was most likely due to the large sample size and the large variance in the length of the cases in the sample. The odds ratios and significance of the final analysis for the dichotomous predictor variables have been shared in Table 3. Of the 162 participants in this sample who received a State VR assessment service from an outside provider, 83 (51.2%) obtained employment. In comparison, 40.8% of the participants in the overall sample obtained employment (see Table 2).

Table 3

The Odds Ratios of Participant Characteristics and Employment for Participants with Psychiatric Disabilities Served in State VR Agencies Using the Aware Case Management System

Predictor Variable	**Odds Ratios (95% CI)**	***p* (*df* =1)**
Sex (female)	.81 (.72, .92)	<.001
Was receiving Social Security disability benefits at intake	.50 (.44, .58)	<.001
Had legal system involvement	1.10 (.97, 1.26)	.15
Received an assessment service from a provider outside of the State VR agency	1.55 (1.12, 2.14)	.01
Length of State VR case in days	1.0 (1.0, 1.0)	<.001
Age at application (in years)	1.02 (1.01, 1.02)	<.001

Discussion

The group of participants with psychiatric disabilities who were served in State VR agencies was diverse in terms of participant characteristics, the services that were provided, and their employment outcomes. Representation of women participants was somewhat equitable compared to the men in both samples. About one third of participants belonged to ethnic minority groups. Well over half of the participants had completed high school or more at the time they applied for State VR services. The average age of participants at the time of application for State VR services was over 30, and the age of participants was quite varied. The most common psychiatric disabilities that were coded for the participants were depression or other mood disorder and anxiety disorder. Nearly half of all participants had a secondary psychiatric disability coded in addition to their primary psychiatric disability.

All the participants selected for this study received State VR services as part of an IPE, and all were considered by the State VR agency to have a significant or most significant disability. The effect of the demographic characteristics on employment was consistent with previous research (Hartley & Tarvydas, 2022). The frequencies of the State VR services that were provided and the employment outcomes for this population were concerning. The overall employment success rate of the participants in this study was 38%. Nationwide, 76% of the participants did not receive any assessment service that would have helped them develop their IPE. Approximately 12% received assessment services from staff within the State VR agency, and approximately 12% received assessment services

from a provider outside of the State VR agency. The assessment service appeared to be largely underutilized in State VR service-delivery with this population.

Receipt of the State VR assessment service appeared to impact whether the participant received appropriate services in their IPE or not. In the smaller sample of participants served in states that use the Aware system, 76.5% of the participants who received the State VR assessment service from an outside provider had some kind of a vocational training and/or job placement service. In comparison, 31.5% of the participants who had no State VR assessment service received these services.

The IPS models of supported employment and SEd were developed specifically to assist individuals with serious psychiatric disabilities. IPS model services promote the integration of mental health and vocational services, rapid job placement, and support on the job. The State VR assessment service is any service used to assist the State VR counselor and participant to determine eligibility for services and develop the IPE (RSA, 2017). The high caseload sizes for State VR counselors are not conducive to these counselors implementing IPS model approaches in the individualized and comprehensive IPE planning that is needed for this population. IPS model approaches require much smaller caseload sizes so that appropriate, integrated, and comprehensive vocational services can be coordinated and provided for this population (IPS Employment Center, 2023). State VR counselors cannot be expected to provide IPE development for this population on their own.

The results of the analyses suggested that participants who had a State VR counselor who arranged for a State VR assessment service with a provider outside of the State VR agency were more likely to become employed. They were also more likely to be provided with other VR services that led towards employment, such as vocational training and job placement assistance. It appeared that when State VR counselors obtained assistance from a qualified outside provider to assist the participant to formulate their IPE, the employment outcomes were better.

Limitations of This Study

As evident in all research, there were some limitations in the current study. VR service-delivery varies substantially from state to state, and state regulations regarding specific services are inconsistent from state to state. Nationally, many job placement programs incorporate evidence-based IPS model approaches in their services (IPS Employment Center, 2023). Evidence-based practices including the IPS model approach are not captured in RSA-911 data if these community partner programs are not providing services in collaboration with State VR agencies. Finally, given that data are entered by VR counselors across the U.S., it is possible that some data were entered in error. The large sample sizes, large variances of the age of the participants and length of the cases, and the low numbers of participants who received an assessment service from an outside provider impacted the strength of the regression analysis.

Recommendations

Employment outcomes for participants with psychiatric disabilities served in State VR agencies are poor. Further research of evidence-based practices for participants with psychiatric disabilities within the VR service-delivery system using existing data is encouraged. Studies with smaller sample sizes that utilize certified private VR counselors to help State VR participants determine eligibility for services and develop their IPE are needed. The following strategies could improve IPE development for participants with psychiatric disabilities served in State VR:

1. **Prepare State VR counselors to effectively work with individuals with psychiatric disabilities.** Collaboration with community partners that promote ACT and CSC case management strategies and IPS model supported employment and SEd is recommended. Principles of the IPS model include promoting client choice, rapid job search, competitive employment, integration of vocational and mental health services, and benefits counseling.

2. **Provide participants with psychiatric disabilities served in State VR agencies with high-quality and timely IPE development and job placement services.** IPS model supported employment and SEd are considered the best practice, evidence-based approaches for individuals with serious psychiatric disabilities (IPS Employment Center, 2023). Because of the intensive and holistic range of services that are needed to support clients with serious psychiatric disabilities, IPS-model service providers should assist no more than 15-20 clients at one time. Given the high caseload sizes for State VR counselors, collaboration with service providers outside the State VR agency who provide IPS-model services with fidelity is crucial in garnering effective services that lead to successful employment outcomes for this population.
3. **Authorize qualified providers outside of the State VR agency to develop the IPE with individual clients who have psychiatric disabilities as a State VR assessment service.** Professionals who hold master's degrees in Rehabilitation Counseling, are certified by the CRCC, and have completed additional training in the IPS model are most qualified to provide appropriate IPE development services for this population (CRCC, 2021; IPS Employment Center, 2023; Peterson & Olney, 2021).

Conclusions

Services provided by State VR agencies represent a viable resource to help individuals with psychiatric disabilities to obtain employment. This study explored current demographic characteristics, services received, and employment outcomes for participants with psychiatric disabilities served in State VR agencies. Evidence-based practices can be better integrated into routine State VR service-delivery to improve employment outcomes for this population. State VR administrators should partner with qualified rehabilitation professionals who are both certified by the CRCC and have specialized training in the IPS model to help State VR participants with psychiatric disabilities develop an IPE that leads to competitive, integrated employment.

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