

## **Vocational Services and Outcomes of Psychiatric Clients from a Midwestern State**

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### **Abstract**

This study examined services received and outcomes of clients with psychiatric disabilities of a Midwestern public rehabilitation program. More specifically, multiple regression analysis was used to determine the relationship between specific vocational services, demographic factors and service outcomes of clients with psychiatric disabilities. The specific vocational outcome of interest was weekly earnings at closure. The twelve predictor variables included in the model were (a) Age, (b) Race, (c) Education, (d) Public assistance, (e) Restoration, (f) College/University, (g) Business/Vocational, (h) Adjustment, (i) Miscellaneous, (j) Placement, (k) Transportation, and (l) Maintenance. The results of the multiple regression analysis revealed that the most parsimonious model for predicting weekly earnings of successful closures included six predictor variables: education, public assistance, placement, college/university training, business/vocational training and adjustment training.

**Keywords:** public vocational rehabilitation, psychiatric disabilities

More than two decades of research suggests the notion that engagement in meaningful work, or some related activity, is basic to the human psyche. The ability to work is as important a phenomenon for individuals with persistent mental illness issues as it is for the general population (Donnell, Mizelle & Zheng, 2009; Gill, Murphy, Burns-Lynch, & Swarbrick, 2009). Chan (2010) suggested that work is related to improved quality of life, independence, and promotes community integration. Eklund, Hannson, and Ahlqvist (2004) observed that employed individuals tend to be “more satisfied with their lives than those who are unemployed” (p. 466). In relation to persons with mental illness, employment also provides structure and serves as a diversion from symptoms and related issues (Drake, Bond & Becker, 2012). Data from the Substance Abuse and Mental Health Services Administration (SAMHSA) indicated that approximately 9.3 million adults, or about 4 % of Americans aged 18 and over, experience serious mental illness (SAMSHA, 2012). On the other hand, the National Alliance on Mental Health (NAMI, 2014) reported that the employment rate for persons with mental disability was less than 17.8% in 2012. Additionally, individuals with mental illness constitute the largest number of supplementary security income beneficiaries and are the most unlikely to completely leave the disability rolls (Wewiorski & Fabian, 2004).

The Barden Lafollette Act (1943) extended the provision of vocational rehabilitation (VR) services for persons with severe mental illness. The VR program currently provides vocational rehabilitation services to a significant number of persons with psychiatric disabilities, because employment is considered to be a standard treatment goal for persons with mental illness (Rosenthal, Dalton, & Gervery, 2007). In fact, individuals with mental illness constitute the second-largest disability group receiving VR services, after orthopedic impairment (Hayward & Schmidt-Davis, 2003). However, it has been reported that the employment rate for persons with mental illness has declined in the last decade, despite increased annual spending of approximately \$4 billion (NAMI, 2014). The costs of this development include loss of productive workforce, reduced earnings, increased dependence and spending by government.

Previous research studies have noted that consumer characteristics are likely to impact their experiences in the VR program and the achievement of successful employment outcome (Da Silva Cardoso, Romero, Chan, Dutta, & Rahimi 2007; Schaller, & Yang, 2005). Researchers (Burke-Miller et al., 2006, 2007; Wewiorski & Fabian (2004) stated that demographic factors such as age, gender, race, prior work history, and education are frequently related to the achievement of successful employment outcomes. However, there have been limited studies that have examined these variables in relation to consumers with psychiatric disabilities receiving services in the VR program.

With regard to race, African Americans and other minorities have been reported to be underserved by the nation’s mental health system (Alegría et al., 2008; Wang et al., 2005). Minority consumers experience significant disadvantages in addition to their disability, or what is referred to as a “dual disadvantage” within the VR system (Harley, Alston, & Middleton, 2007; Olney & Kennedy, 2002; Wilson, Edwards, Alston, Harley, & Doughty, 2002). As members of a minority group, consumers with psychiatric disabilities experience the barriers of a traditionally underserved community and as individuals with disabilities, they experience additional barriers within in terms of services and employment in their own communities (Wilson et al., 2002). Further, Wewiorski & Fabian (2005) found in their meta-analysis that in general, being white was associated with attaining employment, and that people of color were more likely to be employed six months after placement. However,

Bomet (2005) found that neither race/ethnicity nor gender were predictors of employment. Therefore, further examination of this relationship is required in light of these inconsistencies.

The age of the consumer has also been identified as a significant demographic factor that impacts employment outcome among consumers with psychiatric disability. However, there is an inconsistency in the results with regard to age. Whereas, Waghorn, Chant and Harris (2015) found that young adults with psychiatric disabilities are less likely to achieve employment outcome than mature adults, Wewiorski and Fabian (2005) reported that a younger age was associated with both getting and keeping a job. Similarly, Burke-Miller, et al. (2006) also found that psychiatric consumers of a younger age were more likely to achieve competitive employment, and work additional hours each month. Competitive employment is simply jobs paying at least minimum wage in regular, socially integrated community settings, not reserved for individuals with disabilities, and held by patients rather than provider agencies (Cook et al., 2005).

Scholars purport that it is generally difficult to fully assess the impact of the array of VR services because they are applied and studied variably (Davis, Delman, & Duperoy, 2013; Fleming et al., 2013). However, some researchers have implicated the level of education in consumers with psychiatric disability as a significant determinant of employment outcome (Boutin & Accordino, 2011). In their study, Boutin and Accordino found consumers with psychiatric disability that received college and university training support achieved better competitive employment compared to similar individuals without such support (Boutin & Accordino, 2011). Other researchers (Bromet, 2005; Bond & Drake, 2008) have also identified job placement as a significant predictor of employment outcome among consumers with psychiatric disabilities.

Gendered expressions and consequences of mental illness or psychiatric disability are important considerations for health service providers and policy makers in recent years (Salmon, Poole, Morrow, Greaves, Ingram & Pederson, 2006). Vlassoff (2007) described gender as “the array of socially constructed roles and relationships, personality traits, attitudes, behaviors, values, relative power and influence that society ascribes to the two sexes on a differential basis” (p.47). The interactions between gender, socioeconomic conditions and consequences of mental health create different health outcomes for males and females. Previous studies have found that women with psychiatric disabilities that received VR services tend to have less favorable outcomes and earn less than men (Carrick & Bibb, 1982; Cook, 2003). Consequently, gender-based analysis that recognizes and highlights the differential impact of interventions on consumers of rehabilitation services significantly contributes to the body of evidence-based practice.

The types of services that clients receive in the VR program have also been associated with successful employment outcomes (Balcazar, Suarez-Balcazar, Taylor-Ritzler, & Keys, (2010). For instance, the authors (Balcazar et al., 2010) found that clients who receive job placement support services were 1.13 times likely to be employed than those who did not receive such services. Similarly, Hayward and Schmidt-Davis (2003), in their longitudinal analysis of the VR program, also found that consumers who received services such as postsecondary education, including business or vocational school, community college, and four-year college or university, were more likely to achieve competitive employment outcome.

## Statement of the Problem

Due to fiscal constraints, a burgeoning service need and accountability, there is a need for increased use of evidence-based practices in the VR program (Rosenthal, Lui, Chan, & Pruett, 2005; Leahy et al., 2014; Sherman et al., 2014). Indeed, matching the characteristics of a group of people with specific outcomes answers the fundamental questions underlying evidence-based practice: “What procedures/techniques make a specific intervention work and for whom is the intervention most effective?” (Chronister, Cardoso, Lee, Chan & Leahy, 2005; Rosenthal, Chan, Wong, Kundu, & Dutta, 2006). Such an understanding will enable practitioners to have a service focus that allows the judicious use of resources in light of resource constraints and demands for accountability. Wewiorski and Fabian (2004) opined that such information is useful in a number of ways. First, it can help sort out whether illness factors alone, or whether other factors in combination with illness factors, are related to employment outcome, although it is sometimes difficult to separate the discrete contribution these variables make to the outcome. Second, these data may suggest the type and intensity of intervention most appropriate and/or effective for various subgroups of the population of individuals with psychiatric disabilities.

The current study sought to examine the relationship between specific vocational services, demographic factors and service outcomes of clients with psychiatric disabilities. The purpose of this study was to examine the relationship between consumers’ demographic factors, types of vocational services received and earnings of successful closures of consumers with psychiatric illness in a Midwestern state. The research question that was addressed was: What is the most parsimonious model for predicting the relationship between consumers’ demographic factors, vocational services received and earnings of successful closures? The study also examined the difference in earnings between Caucasians and African Americans, as well as male and female consumers after successful closure.

## Method

### Data Source

Data for this study were extracted from the Rehabilitation Services Administration Case Service Report (RSA-9 11) for the fiscal year (FY) 2010, which included cases classified by a Midwestern State public rehabilitation agency (PRA) as having (a) psychotic disorders (Disability Code 18); and (b) other mental and emotional disorders (Disability Code 19) (their primary disability) and without any secondary disability. RSA 911-data comprised more than 40 fields, including age, disability, race, gender, education, public assistance, and maintenance.

### Participants and Procedure

Based on data sorting, 888 cases were initially included in the study. Due to the relatively few number of cases involving Hispanic, Asian/Pacific Islanders and Native Americans ( $n = 19, 2.2\%$ ) within the reported data timeframe, these groups were excluded from the analysis; leaving a sample of 869 Caucasians and African Americans. The final total included 348 females (202 Caucasians/146 African Americans) and 521 males (260 Caucasians/261 African Americans).

### Predictor Variables

Previous studies (Anthony, 1994; Wewiorski & Fabian, 2004) have used factors such as level of education, race/ethnicity and public support as predictors of successful

closure/employment outcome. For the purpose of this study, eight rehabilitation program service variables and 12 consumer characteristics were used to examine the relationship among demographic factors, service variables and employment outcome. Program service variables included (1) Restoration, (2) College/University, (3) Business/Vocational, (4) Adjustment, (5) Miscellaneous, (6) Placement, (7) Transportation, and (8) Maintenance (RSA, 2010), whereas consumer variables included (1) Age, (2) Race, (3) Education, and (4) Public assistance.

### **Outcome Variables**

The outcome variable used for the study was Weekly Earnings at Closure, measured by dollars earned in competitive employment during the week before case closure. Daniels and Mickel (2002) stated that VR consumers' weekly earnings are an appropriate outcome measure because it is significantly related to the level of education, age and because most individuals with significant disabilities—including those with psychiatric disability—often have prior working experience before seeking VR services.

### **Data Analysis**

Descriptive statistics such as simple percentages and averages were used for consumers' demographic variables. Regression analysis, which allowed assessment of the relationship between predictor variables (consumer's demographic characteristics and VR services) and the criterion variable (weekly earnings at closure), were conducted to answer the research questions.

## **Results**

### **Description of subjects**

Demographic characteristics and types of VR services received among the study's population are presented in Tables 1. Overall, 53.2% were Caucasian and 46.8% were African Americans, and the majority (60%) of the closures were male (260 Caucasians and 261 African Americans during the fiscal year reviewed. Subjects ranged in age from 17 to 70 years, with a mean age of 40 (males – 40.28 and females – 39.9). The largest single age group was between 40 and 49 years (n=346. 39.8%). With regard to educational backgrounds, more than half of the clients (57%; 323 males and 192 females) were reported as high school [special education] graduates and nearly a quarter (23.4%) reported having completed secondary educational levels beyond associate degrees.

Table 1: Consumer Characteristics: Frequencies and Percentages

Consumers characteristics	Male		Female		Total	
	n	(%)	n	(%)	n	(%)
<b>Age</b>						
< 20	19	(3.6)	8	(2.3)	27	(3.1)
20 - 29	87	(16.7)	60	(17.3)	147	(17.0)
30 - 39	97	(18.6)	80	(23.0)	177	(20.4)
40 - 49	217	(41.7)	129	(37.1)	346	(39.8)
50 - 54	71	(13.6)	48	(13.7)	119	(13.6)
55 or >	30	(5.8)	23	(6.6)	53	(6.1)
<b>Race</b>						
Caucasian	260	(49.9)	202	(58.0)	462	(53.2)
African American	261	(50.1)	146	(42.0)	407	(46.8)
<b>Education</b>						
No Formal School	2	(.4)	3	(.9)	5	(.6)
Less than High School	104	(19.9)	62	(17.8)	166	(19.1)
Special Education & High School	323	(62.0)	172	(49.4)	495	(57.0)
Associate or >	92	(17.7)	111	(31.9)	203	(23.4)
<b>Public Assistance</b>						
Yes	120	(23.0)	109	(31.3)	229	(26.4)
No	401	(77.0)	239	(68.7)	640	(73.6)
<b>Total</b>	<b>521</b>		<b>348</b>		<b>869</b>	

*Services and weekly earnings.* Tables 2 and 3 summarize services received and weekly earnings information. In terms of services received, males and females received similar

numbers of services (females = 2.01, males = 1.94), with each group receiving a maximum of six agency services. Maintenance was the most frequently provided service, with more than 50% of the sample receiving this service, followed by transportation (46.7%) and placement (40.6%) services. When viewed from a gender perspective, 55% of females (n = 194/348) received maintenance compared to 53% of males (n = 280/521), followed by transportation for males (47.2%) and females (46%). Business/vocational training (14.4%), college/university training (8.1%) and adjustment training (3.3%) were the least services to clients with psychiatric disabilities in the study.

Table 2: Services Received by Male and Female Participants

Services	Male		Female		Total	
	n	(%)	n	(%)	n	(%)
Restoration	79	(15.2)	63	(18.1)	142	(16.3)
College/University Training	31	(6.0)	39	(11.2)	70	(8.1)
Business/Vocational Training	6	(11.5)	65	(18.7)	125	(14.4)
Adjustment Training	15	(2.9)	14	(4.0)	29	(3.3)
Misc. Training	74	(14.2)	74	(21.3)	148	(17.0)
Placement	223	(42.8)	130	(37.4)	353	(40.6)
Transportation	246	(47.2)	160	(46.0)	406	(46.7)
Maintenance	280	(53.7)	194	(55.7)	474	(54.5)

Table 3: Descriptive Statistics for Selected Variables (Age, Services Received and Weekly Earnings)

Variables	Male				Female				Total			
	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Age	17	65	40.28	11.12	18	70	39.90	10.95	17	70	40.13	11.05
Services received	0	6	1.94	1.12	0	6	2.10	1.29	0	6	2.01	1.19
Weekly earnings												
At application	0	600	23.81	83.16	0	1200	43.38	123.4	0	1200	31.62	101.6
At closure	0	769	281.8	140.1	0	700	258.0	142.1	0	769	272.3	141.3

  

Variables	Caucasian A				African A				Total			
	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Age	17	70	39.02	11.81	18	64	41.48	9.91	17	70	40.13	11.05
Service received	0	6	1.92	1.30	0	6	2.11	1.05	0	6	2.01	1.19
Weekly earnings												
At application	0	664	36.91	98.91	0	1200	27.29	110.4	0	1200	31.62	101.6
At closure	0	800	257.2	156.9	0	808	295.6	130.0	0	769	272.3	141.3

### Regression

Regression analysis, using SPSS 23.0, was used to address the research question. Results of the analysis showed the most parsimonious model for predicting weekly earnings at case closure contained six variables: weekly earnings at closure = 101.59 + .38.33 (education) - 130.50 (public assistance) + 53.40 (Restoration) + 86.68 (college/university) + 60.13 (business/vocational) - .83.69 (adjustment training). Whereas, education, restoration, college/university and business/vocational training have a positive relationship with weekly earnings at closure, the level of public assistance and adjustment training have a negative relationship with weekly earnings at closure (See Table 4 & Table 5).

Table 4: Regression Model Predicting Weekly Earnings of Males with Psychiatric Disabilities

Source	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>
Regression	3507508.40	12	20.46**	.000**
Residual	7258485.50	508		
Total	10765994.0	520		

  

Variables	<i>B</i>	$\beta$	<i>P</i>
Intercept	275.01	7.73**	.000**
Age	-.39	-.76	.449
Race	-14.92	-1.25	.212
Education	28.62	3.55**	.000**
Public Assistance	-145.39	-10.92**	.000**
	4.43	.29	.769
College/University	53.56	2.15*	.032*
Business/Vocational	43.26	2.61**	.009**
Adjustment	166.36	1.95	.051
Miscellaneous	-9.77	-.57	.567
Placement	-61.04	-5.11**	.000**
Transportation	19.53	1.65	.099
Maintenance	8.81	.70	.487

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

Table 5: Regression Model Predicting Weekly Earnings of Females with Psychiatric Disabilities

Source	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>
Regression	2330160.80	12	12.16**	.000**
Residual	5347814.80	335		
Total	7677975.50	347		

  

Variables	<i>B</i>	$\beta$	<i>p</i>
Intercept	101.59	2.48**	.014**
Age	.47	.724	.470
Race	18.31	1.23	.221
Education	38.33	4.42**	.000**
Public Assistance	-130.50	-8.73**	.000**
Restoration	53.40	3.01**	.003**
College/University	86.68	3.51**	.001**
Business/Vocational	60.13	3.07**	.002**
Adjustment	-83.69	-2.17*	.031*
Miscellaneous	4.36	.23	.816
Placement	-.10	-.01	.995
Transportation	16.66	1.16	.248
Maintenance	5.35	.35	.723

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

## Discussion

This study was designed to increase understanding of the relationship between consumers' characteristics, types of vocational services and employment outcomes of clients with psychiatric disabilities served by public rehabilitation programs. The results of the study showed that enrollment in public assistance programs was a significant predictor of successful outcomes. These results confirm previous findings that public assistance and the type of training or level of education received are significant predictors of successful employment outcomes for persons with psychiatric disability (Balcazar et al., 2010; Hayward

& Schmidt-Davis, 2003). In addition, consumers who received SSI only, SSDI only, or SSI and SSDI tended to have lower weekly earnings at case closure. More importantly, this adds to the Evidence Based Practice (EBP) literature in public rehabilitation. EBP in rehabilitation counseling practice has been emphasized over the past two decades (Pruett, Swett, Chan, & Rosenthal, 2008). As defined by Chan, Rosenthal and Pruet (2008), EBP involves identifying relevant questions regarding service, and subsequently using research to answer those questions, which results in more effective, and hopefully, efficient service delivery. For mental health and rehabilitation practitioners, this finding speaks to the importance of understanding the type and extent of public support that should be provided to individuals with psychiatric disabilities. In particular, counselors' ability to emphasize and encourage clients to gradually ease their way out of public support are explorations that can be concurrently made while clients are receiving vocational services (Cook, 2006; Rubin & Roessler, 2008). Moreover, this study supports the EBP research (Fleming, Del Valle, Kim & Leahy, 2012) and its importance in times when efficiency is as important as effectiveness, while supporting Rubin and Roessler's (2008) observation that enrollment in public benefits programs may inherently reduce a client's sense of ability, need or urgency to become gainfully employed.

Similarly, the level of education was also a significant predictor of successful outcome. Previous studies (Burke-Miller et al., 2006; Henry, Hashemi, & Zhang, 2014), also found that higher wages are associated with higher levels of education for persons with psychiatric disability. Associatively, the results of the study show that college/university, business/vocational adjustment training were all significant predictors of successful employment outcomes. Collectively, these results are in agreement with the findings of Dutta et al. (2008) that consumers with psychiatric disabilities who received these vocational trainings or university level education were one and a half times more likely to be employed than those who did not receive such services.

Additionally, the results of the current study show that consumers who have received adjustment training services tend to have higher weekly earnings at closure. This suggests that rehabilitation counselors may need to provide more adjustment training (e.g., social skills training, anger management, symptom management etc.) to help consumers with psychiatric disabilities improve their work performance and work-related behaviors, in relation to specific work settings and situations. The results also show that the receipt of restoration services was a significant predictor of successful employment outcomes for persons with disabilities. However, this result was not supported in the study by Rosenthal et al. (2007).

The results of the study with respect to gender differences in employment outcomes is also noteworthy. Compared to males, female consumers with psychiatric disabilities had a higher weekly earning at the time of application, but a lower weekly earning at the time of closure. As well, there are differences in earnings, although males and females receive similar services. This confirms earlier findings that women receive considerably lower wages than men with disabilities (Featherstone, 2009; National Women's Law Center, 2015). One possible explanation provided by Capella (2002) was that the quality of closures favored men over women. This disparity in earnings further reflects the gender-based discrimination that women with disabilities face in employment settings. There is a dual need for mental health practitioners and vocational counselors working with these populations to adopt gender-specific interventions that will improve the employment outcomes of females with psychiatric disabilities. First, practitioners need to understand the factors related to women's family and sociocultural environment and provide transitional support services in the areas of

physical health, parenting and relationships with significant others (Sacks, 2004). Second, practitioners need to continuously network and advocate on behalf of female consumers, given the level of gender discrimination that is prevalent in many employment settings.

With regard to race, the results showed that Caucasian consumers with psychiatric disabilities had significantly higher weekly earnings earned both at the time of application and closure compared to their African American counterparts. This finding is not surprising since it reflects the overall sociopolitical and economic realities of African Americans and other minorities. Beside the inherent ethnic and racial bias against African Americans and other minorities in the VR system, it may be that the peculiar but broad social conditions in African-American communities significantly impact the VR service outcomes (Harley et al., 2007). Vocational counselors working with these individuals need to improve the quality of placements for these individuals. In addition, as part of EBP, counselors need to provide continuous on-the-job support to ensure better employment outcomes.

### **Implications**

The results of this research have implications for state VR agencies that provide services to consumers with psychiatric disabilities. Given the findings on the relationship between specific VR services that predict successful outcomes for psychiatric consumers an important consideration for VR agencies will be the improvement of the emphasis of the provision of these services. Specifically, counselors should explore ways to improve the determination of public assistance and type of education/training that provides the best fit for each consumer, given their sociocultural and economic realities. Such determination will result in the efficient utilization of scarce resources and the achievement of desired employment outcomes.

The findings regarding the differences in earnings between males and female consumers with psychiatric disabilities also has implications for specific VR services related to placement, and support services provided to female consumers. In particular, counselors need to ensure that placements for female consumers are commensurate with knowledge, skills and experience. In addition, due to issues related to discrimination at the workplace, there is a need for continued support and advocacy on behalf of female consumers with disabilities to ensure inclusion and fair treatment.

Given the findings regarding the differences in earnings between Caucasian consumers with psychiatric disabilities and African Americans, it is important for state agencies to take into consideration not only the type and quality of placement and support services provided to these populations, but also understand and address issues related to the “socioeconomic baggage” that these consumers come with. Future research should examine the relationship between the environment in which services are provided and how that effects the outcomes. Such an examination will determine the extent to which socioeconomic factors intervene in services delivery, and their impact on the ability of consumers to achieve successful employment outcomes.

### **Limitations**

The first limitation of the study relates to the data source for the study. The data for this study were extracted from the RSA-911 database. Consequently, problems related to data error or the determination of causality impact the interpretation of the results. Second, while it may be suggested that the study’s population (e.g., individuals with psychiatric disabilities) is likely

more similar than different from those of other states with the same diagnosis, the characteristics of consumers with psychiatric disabilities, including educational levels, may not be the same across all states and all agencies. As such, the generalization of the results of this study is limited to only states with similar population characteristics. Associatively, environmental characteristics such as economic situations tend to vary across states; thus, the outcomes achieved by consumers in this state are only comparable to other states with similar economic conditions.

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