Disparities in the subminimum wage employment among vocational rehabilitation clients: roles of vocational rehabilitation counselors

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Abstract

Vocational Rehabilitation (VR) services play an indispensable role in facilitating individuals with disabilities to secure gainful employment. However, a significant portion of people with disabilities continue to receive compensation below the minimum wage when employed. Moreover, limited understanding exists regarding the influence of counselors' specific characteristics on this subminimum wage scenario. This research utilized data from surveys conducted among counselors, complemented by the case reports of their disabled clients, to delve into these multifaceted issues. The findings revealed that, upon program completion, approximately 38% of clients successfully secured employment. However, the median of the wage distributions was a mere $11.1 per hour, consequently resulting in 14% of these individuals receiving compensation lower than the federal minimum wage standard of $7.25/hour.. Distinct trends emerged among the recipients of subminimum wage; notably, those of younger age, individuals afflicted with more significant disabilities, and those facing cognitive, physical, mobility, or vision-related impairments were more likely to receive subminimum wage employment. Furthermore, the likelihood of subminimum wage employment increased significantly among clients of counselors with larger caseloads and those lacking a rehabilitation counseling degree. In light of these findings, it becomes imperative for VR agencies to undertake targeted and updated training programs for counselors, and devise effective strategies to alleviate the low wage wage employment among clients with disabilities.

Keywords: vocational rehabilitation, employment outcome, subminimum wage wage, VR counselor

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Introduction

For rehabilitation scholars in the US, two facts are well known: the employment rate among people with disabilities in the US was about half of that among people without disabilities, and even if employed, the average hourly wage was lower for workers with disabilities than their non-disabled peers (BLS, 2023), as people with disabilities were more likely to work in low-paying jobs (Day & Talyor, 2019).

One misconception is about the lower working abilities among people with disabilities compared with those without disabilities. This false belief not only reduces their chances of obtaining employment for people with disabilities but also leads to lower payment after being employed. This practice was somewhat supported by law. Section 14(c) of the Fair Labor Standards Act (FLSA) of 1938 allows authorized employers to pay subminimum wages (i.e., below federal minimum wage) to people with disabilities, presumably during a job training stage (Crawford et al., 2013; Yin et al., 2023; DOL, 2023). Youth with disabilities in particular are more likely to be affected by this law, as they have little working experience but many of them fail to move into competitive integrated employment to earn above minimum wages (Friedman et al., 2020; Yin et al., 2023). People on subminimum wages are often trapped in a vicious cycle of poverty with socially unjust implications.

FLSA Section 14(c) has been repeatedly questioned for decades (GAO, 2021). In 2014, the Workforce Innovation and Opportunity Act (WIOA) included the section 511 which limits people with disabilities to receive subminimum wage payment , effective after July 22, 2016. An

increasing number of states have passed laws or regulations prohibiting or phasing out the section 14(c) of FLSA since 2015, and likely more states will follow suit (APSE, 2023).

Nonetheless, like youth without disabilities, more than 95% of youth with disabilities would like to have a job (Lipscomb et al., 2017). Promoting people with disabilities working in competitive integrated employment is a must (Wehman et al., 2018). Competitive integrated employment allows people with disabilities to interact with peers without disabilities, pays them at prevailing wages, and nurtures their career growth like those without disabilities (Wehman et al., 2006; Friedman et al., 2020). From the employer's perspective, hiring people with disabilities also improves workforce diversity and promotes the inclusiveness of the work environment (Lindsay et al., 2018). More importantly, it reduces social inequity and income inequity between youth with disabilities and those without disabilities (GAO, 2021).

In addition, the federal minimum wage has been $7.25 per hour since 2009, and the real value of the minimum wage was lower than in the 1970s. Fortunately, several states have set a minimum wage standard of more than $10/hour (BLS, 2023). Meanwhile, several studies have documented the lower hourly wage employment among people with disabilities, particularly among people with intellectual and developmental disabilities (IDD) or youth with disabilities (e.g., Hiersteiner et al., 2018; Yin et al., 2014; Winsor et al., 2022; Yin et al., 2023). For example, the average earnings for people with disabilities with a high school or equivalent degree were $6,505/year less than those without a disability (Yin et al., 2014). For people with IDD, the average hourly wage was about $9, regardless of the status of employment support, and about $6.6 for those working in group-supported settings (e.g., sheltered workplaces) (Hiersteiner et al., 2018). Similarly, the 2017 American Community Survey (ACS) showed that full-time, year-round workers with disabilities earned 87 cents for every dollar earned by those

with no disability (Day & Taylor, 2019). However, evidence is scarce about whether, how and why the low wage employment issues may differ between people with and without disabilities, and other groups of people who were also in low wage employment.

Vocational rehabilitation (VR) services are essential to facilitating employment among people with disabilities (Dutta et al., 2008; Cheng et al., 2018; Nevala et al., 2019; Riesen et al., 2023). VR agencies are state-federal funded agencies that provide VR services to eligible clients with disabilities (RSA, 2023). The VR services provided by VR counselors are eligibility-based. That is, clients with disabilities should apply for VR services, and the counselors determine the eligibility for services and assess the potential benefits of VR services for the client. If eligible, an individualized plan for employment (IPE) should be formulated for each client. VR counselors provide comprehensive services that include skill development, job-seeking assistance, job training, employment outreach and internship, assistive technology, and ongoing support and follow-up (Lindstrom et al., 2011; Erickson et al., 2014; Sudar et al., 2018; Cheng et al., 2018; Nevala et al., 2019; Bonaccio et al., 2020). The case is considered successfully closed when the client is placed in a job for 90 days or more. However, only about one-third of VR clients with disabilities obtained employment at exit (Winsor et al., 2022).

The low wage not only discourages people with disabilities from seeking employment but also increases the risk of persistent poverty even if they are working full-time (Abidi et al., 2014; Ahonen et al., 2018). As suggested, VR counselors play a critical role in helping VR clients secure employment. However, few studies have examined the impact of VR counselors' characteristics on reducing the rates of subminimum wage employment. Our past research has shown that counselors with a master's degree in rehabilitation counseling were more likely to help clients achieve employment than those without (Mackay et al., 2018a; 2018b; Yu et al.,

2022; 2023a). We also identified the knowledge and skills necessary for increasing the client's employment outcomes (Yu et al., 2023a). For the purpose of this study, we will address the following research questions (RQ):

RQ1: What were the rates of subminimum wage employment among VR clients with disabilities?

RQ2: How did clients' characteristics impact the rates of subminimum wage employment at exit?

RQ2: How did counselors' characteristics impact the subminimum wage employment among clients with disabilities?

Methods

The current study was approved by the Institution Review Board (IRB) of the primary authors' institution before its initiation and obtained support from the rehabilitation agencies of the participating states: Connecticut (CT), Florida (FL), Idaho (ID), and Utah (UT).

Study design

The study was a cross-sectional study based on surveys of all VR counselors employed by the participating state VR agencies in 2017. The survey instruments were developed, implemented, and tested using the Qualtrics® online survey system (Mackay et al., 2018a; 2018b). The survey questionnaire consisted of 23 items that included counselors' demographics, year of graduation, highest education and discipline, years of experience as a rehabilitation counselor, perceived preparedness for work as a rehabilitation counselor, and knowledge and concerns about rehabilitation counseling. The link to the survey was sent to all VR counselors by the state VR agencies. Participation was voluntary, and no incentives were provided.

The survey data were linked with RSA 911 case report data for all clients with disabilities who had received services from the participating VR counselors from 2014 to 2018 (varied by state). Data elements for the client records included clients' demographics, disability types and severity, primary support at exit, employment status at exit (employed or not), and if employed, job title, type of work environment, working hours per week, and hourly wage. Data were cleaned and anonymized by the original study investigators.

Statistical analysis

Only counselors and their clients from ID and UT were included in the study because no clients in the states of FL and CT received an hourly wage below $7.25 during the study period. We further restricted to those counselors who had completed all survey questions and had at least one VR client (N=119) (Table 1). In addition, since those with age younger than 16 or older than 60 may have different issues during the rehabilitation and job searching (e.g., age discrimination exists in reality), we limited the data to clients aged 16 to 60 (working age). We also excluded those who were employed before the counseling so that we could study the incidence of employment. Those who reported no impairment or became ineligible before the exit were also excluded. Furthermore, we excluded those who died before the exit and who had disabilities that were too significant to receive employment or continue the counseling before the exit, as they would not be employed. The final analysis included 20,357 clients (Table 2).

Descriptive statistics such as means, medians, and frequencies were used to describe the characteristics of clients and counselors. T-test and chi-squared test were used to examine the differences of these variables. The main outcomes were the client’s employment status at exit (employed or not) and subminimum wage status (earning a wage of US $7.25 or less per hour). The main predictor was the client’s and counselor’s characteristics (see Tables 1 and 2). They

included the counselor's characteristics such as age, gender, years of experience (less than 6 years vs. 6 years or more, an arbitral cutoff point similar to our previous studies), having a master's degree in rehabilitation counseling or other master's degrees, and the client's characteristics such as age, education, and the significance of disability (less significant vs. more significant). The state information is also included to account for geographic and policy variations.

Furthermore, multilevel logistic regressions were used to obtain adjusted rate differences and rate ratios with robust variance to account for the clustering of clients within counselors. The adjusted odds ratios (OR) were presented with both clients' and counselors' characteristics in the model (fully adjusted) to assess the independent effects of each variable.

Stata 16.1 (Stata LLC. College Station, Texas) was used for all analyses, and statistical significance was set at a p-value of less than 0.05.

Results

Among 119 counselors, 69% were from UT, and 61% were females, with an average of 42.4 years old (Table 1). The average years of working experience was 7.8, and about 39% of them had more than six years of experience. The median annual number of clients was 51. About 88% had a master's degree, and 68% majored in rehabilitation counseling.

The characteristics of VR clients are presented in Table 2. About 54% of individuals were from UT, and the average age of clients was 33.6 years old (Table 2). About 93% were whites, 22% had an education below high school, and 39% had a high school diploma. As expected, almost half (48.5%) of clients had psychosocial disabilities, and 20% had cognitive disabilities. About 41.5% had more significant disabilities, as reported on the RSA 911 records. At the exit,

about 32.4% were supported by their income, while 20.6% were supported by public subsidies (e.g., social security disability insurance), and 35.8% relied on support from family or friends.

RQ1: What were the rates of subminimum wage employment among clients with disabilities?

Overall, about 37.9% of clients were employed at exit, and the average weekly working hours were 31 hours, or 24% of clients worked full time. The average hourly wage across different jobs was $11.1, resulting in 5.2% of them being paid subminimum wage (Table 2).

RQ2: How did clients' characteristics impact the rates of subminimum wage employment?

The rates of employment and subminimum wage employment were presented in Table 3 by both clients' and counselors' characteristics. Although the overall employment rates were higher among younger clients (39% for those aged ⩽45), the rates of subminimum wage employment were higher among younger clients (8.3% among those aged 15-22, 5.9% among those aged 23-32). There were other disconnections between overall employment and subminimum wage employment. For example, among those who received special education, the overall employment rate was high (47.1%), but the subminimum wage rate was also higher (12.2%). Students were more likely to be employed but at higher rates of subminimum wage employment. For those with cognitive disabilities, the subminimum wage rate was about 10%. For those supported by personal income, the subminimum wage rate was also high (8.7%), despite a higher overall employment rate (83.7%). There were significant differences in overall employment by racial groups but no differences in the rates of subminimum wage employment.

There were significant differences in employment outcomes according to working environment and job types. Those employed with support were much more likely to earn subminimum wages than those employed in the competitive integrated environment. Those working in the service industry (food services, commercial cleaning, or other services) were

significantly more likely to earn a subminimum wage. The appendix table also shows the median hourly wage for different jobs. Almost all services-related jobs had a median hourly wage below $10.

The above patterns based on the descriptive statistics were confirmed in the multivariate analysis in which all these variables were in the model. Younger age, more significant disabilities, and having cognitive, physical, mobility, or vision disabilities increased the odds of receiving subminimum wage employment. After adjusting for other variables, no differences appeared in the rates of subminimum wage employment by education level.

RQ3: How did counselors' characteristics impact the rates of subminimum wage employment at exit?

Several counselors' characteristics affected the rates of overall employment at exit and subminimum wage employment differently (Table 3). These counselors' characteristics include: being male; mid-age; having more working experience; having a moderate annual number of clients (related to "caseload"); having a master's degree; and majoring in rehabilitation counseling were associated with higher employment rates. However, the differences in the rates of subminimum wage employment were less obvious. For example, counselors with a higher caseload and those without a master's degree in rehabilitation counseling seemed to have much higher rates of subminimum wage employment.

The multivariate analysis confirmed the observed pattern. The rates of subminimum wage employment increased with the counselor's caseload, and those with a rehabilitation counseling degree were associated with a lower rate of subminimum wage employment.

Discussion

Using survey data on VR counselors that were linked with RSA 911 case report data for their clients with disabilities, we found that the overall employment rate was 38%. However, the rate of subminimum wage employment was 5.2%, accounting for 14% of overall employment. Characteristics of clients and counselors had different impacts on the rates of overall employment and subminimum wage employment at exit. Younger age, more significant disabilities, and having cognitive, physical, mobility, or vision disabilities increased the odds of receiving subminimum wage employment. Furthermore, the rates of subminimum wage employment increased with the counselor's annual number of clients ("caseload"), and those without a rehabilitation counseling degree were also associated with a higher rate of subminimum wage employment.

Our findings on the patterns of overall employment were consistent with previous studies (BLS, 2023; Day & Taylor, 2019; Dutta et al., 2008; Sevak et al., 2015; Sevak et al., 2019; Hiersteiner et al., 2018; Yin et al., 2014; Yu et al., 2023a; Riesen et al., 2023). Younger clients, whites, higher education, less significant disabilities, and disabilities other than psychosocial or cognitive disabilities were related to higher overall employment rates. On the other hand, the impact of these clients' characteristics on the rates of subminimum wage employment was different such that younger clients were more likely to receive subminimum wage. Our findings on subminimum wage employment were consistent with previous findings (Hiersteiner et al., 2018; Yin et al., 2014; Yin et al. 2022). It has been noted that young clients with disabilities (most likely intellectual and developmental disabilities) were less likely to receive higher-paying jobs. This remains a challenge to the rehabilitation society. Several studies have investigated some strategies using clinical trials. For example, Wehman et al. (2015) explored the impact of internships on high school students with cognitive disabilities and found that working before

graduation was the most effective way to increase future employment after graduation. Other studies also found that family support, pre-employment services, employer partnership, and other community supports increased the employment rates among youth with disabilities (Erikson et al., 2014; Lindstrom et al., 2018; Bonaccio et al., 2020; Vonholt et al., 2022).

Significant progresses have been made in abolishing the subminimum wage. Many states have legally or practically prohibited subminimum wage (ASPE, 2023). For example, we found no clients from CT and FL working on subminimum wage jobs. There is presently a robust and strong movement undergoing in many states seeking to pass laws phasing out subminimum wage (not limited to people with disabilities). However, as shown in our study, for states that haven't eliminated subminimum wage employment, about 14% of jobs paid subminimum wages to people with disabilities. The exact reasons were unknown, and our data were not able to explore this issue. It appeared that employment with support and jobs in the services industry were more likely to pay subminimum wages.

It is important to advocate for paying a living wage for all jobs and for all people. The living wage is a wage that is higher than a minimum wage which was mandated by the federal or state government. The federal minimum wage was at $7.25/hour since 2009, and detached from the economic changes during the past decade, suggesting it was more of a political resolution in recent years.The living wage is calculated based on the living cost of the region to ensure economic sufficiency for people to support themselves and their families to live a decent life (Luce S., 2022). Although several legislative attempts at the federal level were not successful, significant progress has been made in many municipal governments. For example, a local government can mandate ordinances on living wage floors for governmental contractors, which subsequently may affect the overall payment level locally. From an Employment First standpoint

(ASPE 2023), assessing the employment outcomes of VR services should go beyond the overall employment rate and adopt the living wage as the benchmark (Lustig & Strauser, 2004). However, fighting for a living wage for individuals with disabilities has not been fully engaged (Lustig & Strauser, 2004; Ciscel, 2000; Friedman et al., 2019). Similar to other advocating groups, the current living wage goal for people with disabilities should be $15/hour which can be viewed as a universal and minimal living wage standard and be expected to grow with the local economic cost of living. However, as shown in the current study and other studies, little progress has been achieved so far (BLS, 2023; Hiersteiner et al., 2018).

To lift people with disabilities from low-paying jobs, a competitive integrated employment environment with gainful wages could be the pathway (Wehman et al., 2018). Several approaches have been shown working, including previously mentioned internship, community support, post-secondary education, psychosocial, and job-related skills training. Many of these approaches are in accordance with the Employment First framework (ASPE, 2023). VR counselors have played significant roles in facilitating employment placement for people with disabilities. As shown in our study, although some characteristics such as years of working experience, a moderate number of clients (or a moderate caseload), and rehabilitation counseling training may increase the rate of employment among their clients (Grubbs et al., 2006; Yu et al., 2023b), their impact on the rates of subminimum wage was more profound. Rehabilitation counseling training significantly helps reduce the rate of subminimum wage employment. However, higher caseload was related to higher rates of subminimum wage employment. This may be due to the higher burnout rates among those with higher caseloads. Counselor burnout was related to less efficiency in providing care and lower quality of services

(Layne et al., 2004). It is also possible that those who were more likely to place clients in low-paying jobs led to a quicker turnaround of cases (higher caseload).

Our study had some limitations. The number of counselors was small, and some data elements from both counselors and clients were not available (e.g., race/ethnicity of counselors, gender status of clients, and details of rehabilitation services provided). Our data were also limited to two states which may limit the generalizability of the study findings. However, our findings were still important to show that subminimum wage employment was not gone. In addition, the survey were conducted before COVID-19 era and many things have changed due to COVID-19 pandemic. On the other hand, the difficulties and barriers of employment among people with disabilities were unlikely mitigated, rather we suspect the dire situations were aggravated by the COVID-19 pandemic, as the COVID-19 negatively impact the economy overall. We did not have long-term employment outcomes and not able to explore the employment sustainability. We were unclear about the reasons for people working in low-paying jobs. A tailored survey for both counselors and clients may help answer these questions. Finally, our study may raise more questions than answers to the low wage employment among people with disabilities, suggesting the need of a multi-dimensional approach examining the impact of employees, employers, personal resources, and the local economics and environment on employment outcomes. Different study designs including both quantitative and qualitative research on employers, employees and VR counselors may help elucidate some of these issues.

The significant implications for rehabilitation counseling are to recognize the complexity of VR counseling and the urgent needs for more evidence-based training and interventions. Our findings also support the training on “caseload management” for counselors (Grubbs et al., 2006) and provide updated and targeted trainings to counselors to place clients into competitive

integrated employment, a goal set in the RSA mission (RSA, 2023). Recognizing that VR clients are seeking help from counselors, indicating their motivations to work, investigating evidence-based strategies to improve the quality of rehabilitation services would yield the most significant benefits to VR clients.

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Table 1: Descriptive statistics of vocational rehabilitation counselor's characteristics

		N	%
Total		119	100
State			
	ID	37	31
	UT	82	69
Sex			
	Female	73	61
	Male	46	39
Age (mean, SD)		42.4(10.3)	
Years of experience (mean, SD)		7.8	6.9
More than six years of working experience			
	No	72	61
	Yes	47	39
Annual caseload* (median and IQR)		51	35 - 72
Annual caseload groups			
	1 - 35	30	25
	36 - 50	29	24
	51-75	32	27
	75-180	28	24
Having a Master's degree			
	No	14	12
	Yes	105	88
Master's degree in Rehabilitation Counseling			
	No	38	32
	Yes	81	68

Note: * caseload is inferred from the annual number of clients

Table 2: Descriptive statistics of vocational rehabilitation clients

		N	%
Total		20,357	100
State			
	ID	9,311	45
	UT	11,046	54
Age (mean, SD)		33.6	12.4
Race			
	American Indian or Alaska Native	435	2.1
	Asian	232	1.1
	Black or African-American	513	2.5
	Multiracial or other	336	1.7
	White	18,841	93
Education at application			
	Elementary education	814	4
	Secondary education, no HS degree	3,622	17.8
	HS degree or equivalent	7,951	39.1
	Post-secondary, no degree	3,265	16
	Associate degree or vocation/tech	1,500	7.4
	Special education	1,043	5.1
	Bachelor or above	1,277	6.3
	Other	885	4.4
Current student at the application			
	No	18,668	91.7
	Yes	1,689	8.3
Disability types			
	Psychosocial	9,882	48.5
	Cognitive	4,074	20
	Physical	1,321	6.5
	Mobility	1,176	5.8
	Manipulative	648	3.2
	Hearing	588	2.9
	Vision	193	0.9
	Communicative	88	0.4
	Other	2,387	11.7

Disability status			
	Less significant	11,917	58.5
	More significant	8,440	41.5
Primary support at close	Personal income	6,592	32.4
	Public supports	4,190	20.6
	Family, friends, or others	7,292	35.8
	Unknown	2,283	11.2
Employed at exist			
	No	12,637	62.1
	Yes	7,720	37.9
Weekly hour working if employed (mean, SD)		31	10.9
Hourly wage if working (mean, SD)		11.1	4.8
Working full-time (>=30 hours)			
	No	15,487	76.1
	Yes	4,870	23.9
Working for subminimum wage ($7.25/hour or below)			
	No	19,293	94.8
	Yes	1,064	5.2

Table 3: Impact of vocational rehabilitation clients' and counselors' characteristics on the rates of employment and subminimum wage employment

		Employed		Working for subminimum wage ($7.25/hour or below)		
		N	Rate (%)	N	Rate (%)	% among employed
Total		7,720	37.9	1,064	5.2	13.8
State						
	ID	2,432	26.1	463	5	19.0
	UT	5,288	47.9	601	5.4	11.4
Age						
	15 - 22	2,111	38.7	453	8.3	21.5
	23 - 32	1,983	39.4	298	5.9	15.0
	33 - 45	2,034	38.4	205	3.9	10.1
	46 +	1,592	24.9	108	2.4	6.8
Race						
	American Indian or Alaska Native	139	32	19	4.4	13.7
	Asian	91	39.2	13	5.6	14.3
	Black or African-American	160	31.2	21	4.1	13.1
	Multiracial or other	77	23	10	3	13.0
	White	7,253	38.5	1,001	5.3	13.8
Education at application						
	Elementary education	304	37.4	34	4.2	11.2
	Secondary education, no HS degree	1,208	33.3	232	6.4	19.2
	HS degree or equivalent	3,156	39.7	480	6	15.2
	Post-secondary, no degree	1,367	41.9	112	3.4	8.2

	Associate degree or vocation/tech	672	44.8	44	2.9	6.5
	Special education	491	47.1	127	12.2	25.9
	Bachelor or above	513	40.2	34	2.7	6.6
Current student at the application						
	No	6,922	37.1	901	4.8	13.0
	Yes	798	47.3	163	9.7	20.4
Disability types						
	Psychosocial	3,491	35.3	459	4.6	13.1
	Cognitive	1,768	43.4	402	9.9	22.7
	Physical debilitation	388	29.4	49	3.7	12.6
	Mobility	401	34.1	20	1.7	5.0
	Manipulative	225	34.7	20	3.1	8.9
	Hearing	266	45.2	15	2.6	5.6
	Vision	80	41.4	13	6.7	16.3
	Communicative	43	48.9	4	4.6	9.3
	Other	1,058	44.3	82	3.4	7.8
Disability status						
	Less significant	4,966	41.7	464	3.9	9.3
	More significant	2,754	32.6	600	7.1	21.8
Primary support at close	Personal income	5,515	83.7	576	8.7	10.4
	Public supports	890	21.2	313	7.5	35.2
	Family, friends, or others	330	4.5	96	1.3	29.1
	Unknown	985	43.1	79	3.5	8.0
Employment types (among employed)	Competitive integrated environment	6,066	29.8	695		11.5
	Employed with supports	446	2.2	185		41.5

	Employed without supports	1,074	5.3	166		15.5
	Other	134	0.9	18		13.4
Most common jobs						
	Other service worker	1204	8.2	349		29.0
	Service representative	610	4.2	73		12.0
	Clerk	494	3.4	30		6.1
	Cleaner	467	3.2	120		25.7
	Food service	464	3.2	145		31.3
	Driver	325	2.2	9		2.8
	Hand	271	1.9	44		16.2
	Manager	238	1.6	16		6.7
	Mechanics	237	1.6	8		3.4
	Health assistant	222	1.5	8		3.6
	Helper	204	1.4	25		12.3
	Sales	204	1.4	29		14.2
Counselor's sex						
	Female	4,741	36.8	704	5.5	14.8
	Male	2,979	39.8	360	4.8	12.1
Counselor's age						
	Below 30	820	36.8	119	5.3	14.5
	31 - 40	3,057	39.7	386	5	12.6
	41 - 50	2,291	38.8	342	5.8	14.9
	51 +	1,552	34.4	217	4.8	14.0
More than six years of working experience						
	No	4,542	35.9	667	5.3	14.7
	Yes	3,178	41.2	397	5.2	12.5
Annual caseload groups						

1 - 35	533	46.8	38	3.3	7.1
36 - 50	1,974	46.3	238	5.6	12.1
51-75	2,718	42.2	368	5.7	13.5
75-180	2,495	29.4	420	4.9	16.8
Having a Master's degree					
No	673	34.3	106	5.4	15.8
Yes	7,047	38.3	958	5.2	13.6
Master's degree in Rehabilitation Counseling					
No	2,283	36.4	368	5.9	16.1
Yes	5,437	38.6	696	4.9	12.8

Table 4: Multivariate analysis on the impact of both vocational rehabilitation clients' and counselors' characteristics on the rates of employment and subminimum wage employment

		Employed		**Working for subminimum wage ($7.25/hour or below)**	
		Odds Ratios	**p-value**	**Odds Ratios**	**p-value**
Client		Ref		Ref	
	15 - 22				
	23 - 32	0.95 (0.84, 1.07)	0.38	**0.82 (0.69, 0.96)**	**0.02**
	33 - 45	0.93 (0.81, 1.07)	0.34	**0.57 (0.47, 0.70)**	**0.00**
	46 +	**0.86 (0.75, 1.00)**	0.04	**0.37 (0.2, 0.48)**	**0.00**
Race	White vs. Other	**1.32 (1.17, 1.50)**	**0.00**	0.96 (0.74, 1.23)	0.74
Disability	More significant vs. less significant	1.01 (0.91, 1.12)	0.89	**2.48 (2.11, 2.92)**	**0.00**
Disability type	Psychological	Ref		Ref	
	Cognitive	**1.34 (1.21, 1.47)**	**0.00**	**2.25 (1.41, 3.58)**	**0.00**
	Physical	0.93 (0.80, 1.08)	0.32	**3.56 (2.21, 5.71)**	**0.00**
	Mobility	**0.83 (0.72, 0.95)**	**0.01**	**2.20 (1.25, 3.89)**	**0.01**
	Manipulative	0.93 (0.77, 1.11)	0.40	1.43 (0.81, 2.53)	0.22
	Hearing	**1.65 (1.20, 2.28)**	**0.00**	1.09 (0.54, 2.19)	0.81
	Vision	0.99 (0.71, 1.38)	0.97	**3.29 (1.47, 7.35)**	**0.00**
	Communicative	**1.71 (1.13, 2.57)**	**0.01**	1.04 (0.35, 3.09)	0.94
	Other	0.88 (0.76, 1.01)	0.08	1.56 (0.97, 2.52)	0.07
Education at application	Less than high school	Ref		Ref	
	High school diploma	**1.15 (1.04, 1.28)**	**0.01**	1.13 (0.94, 1.37)	0.20

	College or above	**1.17 (1.03, 1.33)**	**0.01**	0.82 (0.67, 1.01)	0.06
State	UT vs ID	**2.51 (2.08, 3.02)**	**0.00**	0.93 (0.70, 1.24)	0.64
Counselor					
Male vs. Female		0.89 (0.78, 1.02)	0.10	0.89 (0.68, 1.18)	0.43
Age group	< 30				
	30 - 39	0.96 (0.78, 1.19)	0.72	1.19 (0.82, 1.72)	0.37
	40 - 49	1.01 (0.80, 1.28)	0.93	1.22 (0.79, 1.90)	0.36
	50 +	**0.79 (0.63, 0.99)**	**0.04**	1.32 (0.86, 2.03)	0.20
Annual caseload	1 - 35	Ref		Ref	
	36 - 50	1.19 (0.90, 1.58)	0.21	**1.87 (1.13, 3.11)**	**0.02**
	51-75	1.00 (0.77, 1.31)	0.98	**2.25 (1.36, 3.73)**	**0.00**
	75-180	0.98 (0.72, 1.35)	0.92	**2.03 (1.17, 3.53)**	**0.01**
Master's degree vs. other		1.01 (0.80, 1.29)	0.93	0.82 (0.57, 1.17)	0.27
Rehabilitation counseling vs. other fields		1.11 (0.98, 1.27)	0.11	**0.77 (0.60, 0.97)**	**0.03**
Six or more years of experience		**1.34 (1.13, 1.60)**	**0.00**	0.95 (0.68, 1.31)	0.73

Appendix: Median and IQR of hourly wage for different jobs

Occupation	N	Median	IQR
Cashier	186	8	(8, 10)
Cleaner	467	8	(7, 9)
Foodservice	464	8	(7, 10)
Other service w/o	1204	8	(7, 9)
Childcare worker	86	9	(8, 12)
Hand	271	9	(8, 10)
Sales	204	9	(8, 12)
Stock clerk	177	9	(8, 10)
Assembler	33	10	(9, 12)
Assistant	109	10	(9, 13)
Clerk	494	10	(9, 13)
Cosmetologist	110	10	(8, 13)
Ground	46	10	(9, 11)
Guard	56	10	(10, 12)
Health assistant	222	10	(9, 12)
Helper	204	10	(8, 12)
Production worker	168	10	(9, 12)
Service rep	610	10	(8, 12)
Analyst	33	11	(10, 14)
Others	1022	11	(9, 15)
Manager	238	12	(9, 16)
Mechanics	237	12	(10, 15)
Social worker	126	12	(10, 15)
Welder	99	12	(10, 15)

Computer	41	13	(11, 15)
Construction	112	13	(10, 15)
Technician	150	13	(10, 17)
Electrician	27	14	(11, 16)
Accountant	19	15	(12, 20)
Driver	325	15	(11, 17)
Plumber	17	15	(14, 18)
Teacher	82	15	(10, 17)
Therapist	32	17	(14, 22)
Nurse	41	19	(15, 24)
Total	7720	10	(8, 12)