29317

American Journal of Psychiatric Rehabilitation, 9: 145–166
Taylor & Francis Group, LLC © 2006
ISSN: 1548-7768 print/1548-7776 online
DOI: 10.1080/15487760600961451

Routledge
Taylor & Francis Group

Attitudes Towards Employment and Employment Outcomes Among Homeless Veterans with Substance Abuse and/or Psychiatric Problems

Alvin S. Mares and Robert A. Rosenheck

Northeast Program Evaluation Center, VA Connecticut Healthcare System, West Haven, Connecticut, USA and Department of Psychiatry, School of Medicine, Yale University, New Haven, Connecticut, USA

This study examines the relationship between attitudes towards employment and employment outcomes among homeless veterans with psychiatric and substance abuse problems. Attitudes towards employment among over 300 homeless veterans participating in a study of vocational outcomes were characterized using factor analysis. Mixed linear regression was then used to examine the association between each of five employment attitudes and number of days employment throughout the two-year follow-up period, net of potentially confounding baseline characteristics.

Veterans who worked more than others scored higher on a subscale reflecting favorable attitudes towards work and, unexpectedly, on a subscale indicating that they did not like the kind of jobs they could obtain. In contrast, veterans who scored higher on a subscale indicating that they perceived work as helpful in coping with mental health problems, worked more days than others. However, the magnitude of these effects was small, explaining only an additional 1% of the variation in employment outcomes observed (R-squared) beyond the 10–16% of variation accounted for by client demographic and clinical characteristics at program entry. Measured attitudes only weakly predicted employment outcomes, thus supporting the policy of offering vocational assistance to all who express interest in it.

Address correspondence to Alvin S. Mares, Northeast Program Evaluation Center (182), VA Connecticut Healthcare System, 950 Campbell Ave, West Haven, CT 06516, USA. E-mail: alvin.mares@yale.edu

Keywords: Employment outcomes; Homelessness; Mental illness; Veterans; Vocational rehabilitation

There has been considerable interest in recent years in helping individuals with psychiatric and substance abuse problems return to competitive employment (Priebe, Warner, Hubschmid, & Eckle, 1998). Enhanced vocational rehabilitation treatment has been found effective in developing job skills and molding attitudes necessary to attain employment or entry into more intensive vocational rehabilitation (Blankertz & Robinson, 1996).

As part of these efforts, several studies have examined the relationship of pretreatment attitudes towards employment on employment outcomes. In a randomized clinical trial of family psychoeducation for persons with schizophrenia, those who expressed a desire to work at baseline were found to be one and a half to three times more likely to be employed at one- and two-year follow-up than those who expressed no desire to work at baseline (Mueser, Salyers, & Mueser, 2001). Among those who expressed no interest in working, 10–11% were employed at one- and two-year follow-up, compared with 31%–32% of those who expressed interest in working and had made efforts to find work at baseline, and 14–20% of those who expressed interest in working but had not made any efforts to find work at baseline. Thus, both expressed interest in working and participants' recent efforts to find work at baseline were significantly associated with being employed one to two years thereafter.

In contrast to the traditional approach that prepares people for the job market by developing job readiness and preparedness skills, and offering pre-employment training experiences, recently developed models of supported employment such as the Individual Placement & Support (IPS) model emphasize rapid placement directly into competitive jobs with individualized support and on-the-job training as-needed (Becker & Drake, 1993; Becker & Drake, 1994; Drake & Becker, 1996; Drake, 1998). Advocates of this approach generally believe that it can work for most persons with serious mental illness and thus seek to operate with minimal exclusion criteria (Gervey, Parish, & Bond, 1995; Bond, Becker, Drake, & Vogler, 1997; Bond, 1998; Bond et al., 2001). Underlying this "no rejection" policy is the assumption that employment outcomes are, for the most part, unpredictable and thus there is no reason to target supported employment to specific subpopulations.

One of the only studies to empirically test this "no rejection" approach to vocational rehabilitation was part of the U. S. Department of Health & Human Services Substance Abuse Mental Health Services (SAMHSA) Employment Intervention Demonstration Program (EIDP) (Center for Mental Health Services, 2005). Among 166 unemployed adults with serious mental illness enrolled at the two sites in Worchester, Massachusetts and randomly assigned supported employment, 30% expressed no interest in getting a job at baseline (Macias, DeCarlo, Wang, Frey, & Barreira, 2001). The competitive employment rate two and a half years after the start of the EIDP project among those not interested in working was 29%, compared to 51% among those who expressed interest in working at baseline. Competitive employment rates were higher for both uninterested (48%) and interested (68%) groups who became engaged in vocational treatment after entering the programs. Thus, both interest in work and engagement in vocational treatment were found to be positively associated with attaining subsequent competitive employment. While general interest in work is thus strongly associated with employment outcomes, no study has examined whether subtleties in work attitudes among people who express interest in work predict vocational outcomes.

The Therapeutic Employment Placement and Support (TEPS) Program is a multisite, nonexperimental clinical demonstration project study of vocational outcomes among over 300 recently homeless veterans with psychiatric and substance abuse problems who expressed interest in employment at the time of program entry. TEPS was ultimately designed to evaluate the effectiveness of the IPS model of vocational rehabilitation (Becker & Drake, 1993, 1994; Drake & Becker, 1996) among homeless veterans receiving health care services through the Veterans Health Administration, and referral to more conventional (non-IPS) vocational rehabilitation services (Drebing et al., 2002; Drebing, Rosenheck, Schutt, Kasprow, & Penk, 2003; Kashner et al., 2002; Rosenheck & Seibyl, 2005). Outcomes of a sample of veterans who did not have access to IPS will eventually be compared to outcomes of a cohort who received IPS services at the same site.

This report uses data from TEPS, including information on attitudes towards work and employment outcomes systematically collected over a two-year follow-up period, which are examined for the purposes of (1) characterizing attitudes towards work and their correlates, and (2) examining the association between attitudes

towards work and employment outcomes, independent of other factors.

We thus seek to extend the lessons learned from previous empirical studies (Mueser et al., 2001; Macias et al., 2001) by examining the association of a more specific set of employment attitudes on both noncompetitive and competitive employment outcomes among a more general population of homeless veterans with substance abuse and/or psychiatric problems who expressed interest in obtaining employment.

METHOD

Participants

Participants in this study were homeless veterans receiving a range of medical, psychiatric, substance abuse, and vocational rehabilitation services normally available through local Veterans Association (VA) medical centers. Most were recruited through the Healthcare for Homeless Veterans program at each site, which operated homeless outreach teams and which facilitated access to available VA physical health, mental health, substance abuse treatment, housing, and vocational rehabilitation services using a brokered case management model.

Most participants were male (93%), 46 years of age, and had some college education. Over 60% were non-Caucasian (58% Black and 4% Hispanic). Two-thirds (67%) had been married previously, in contrast to only 5% that were married upon entry into the program. On average, participants' total monthly income was just under $875 per month. They worked an average of eight days a month—five days in competitive jobs and three days in noncompetitive jobs (Table 1). The sociodemographic characteristics of this sample of homeless veterans were comparable to those reported in previous studies of homeless veterans (Leda & Rosenheck, 1992; Rosenheck, Frisman, & Gallup, 1995).

The sample for this study only included all veterans enrolled into the usual care pre-IPS cohort of the TEPS program (N = 309). Thus, subjects in this study received usual health care and vocational rehabilitation services from the VA, while each site was preparing to implement the IPS-like model of vocational rehabilitation (i.e., the "TEPS" program). Participants in the IPS implementation group were excluded from the analyses presented here because all were

TABLE 1. Baseline descriptive data and bivariate correlates of attitudes towards employment

	Mean/%	SD/N	I Can't Work Beta	I Want to Work Beta	Work Helps Me Cope Beta	I Don't Like Jobs I Get Beta	Others Expect Me Beta
Socio-demographics							
Age	46	8	n.s.	−0.114*	n.s.	n.s.	n.s.
Male	93%	287	n.s.	n.s.	n.s.	n.s.	n.s.
Race/ethnicity							
Caucasian	36%	112	—	—	—	—	—
Black	58%	178	n.s.	n.s.	n.s.	n.s.	n.s.
Hispanic	4%	11	n.s.	n.s.	n.s.	n.s.	n.s.
Marital status							
Married	5%	17	—	—	—	—	—
Divorced/widowed	67%	208	n.s.	n.s.	n.s.	n.s.	n.s.
Single (never married)	27%	84	n.s.	n.s.	n.s.	n.s.	n.s.
Education (yrs.)	13.1	1.7	−0.110*	n.s.	n.s.	n.s.	n.s.
Days homeless (past 30)	22	29	n.s.	n.s.	n.s.	n.s.	n.s.
Duration of homelessness							
Less than 6 months	54%	168	—	—	—	—	—
6–12 months	11%	34	n.s.	n.s.	n.s.	−0.160**	n.s.
>1 year	35%	107	n.s.	n.s.	n.s.	n.s.	n.s.
Quality of life (overall) (1–7)	3.9	1.5	n.s.	n.s.	n.s.	n.s.	n.s.
Intending to apply for disability	15%	45	0.128*	−0.196***	n.s.	n.s.	n.s.
Receiving disability benefits	15%	45	n.s.	n.s.	n.s.	n.s.	n.s.
Disability income	779	883	—	—	—	—	—

(*Continued*)

TABLE 1. Continued

	Mean/%	SD/N	I Can't Work Beta	I Want to Work Beta	Work Helps Me Cope Beta	I Don't Like Jobs I Get Beta	Others Expect Me Beta
Total income (past 30)	873	1,105	n.s.	n.s.	–0.143**	n.s.	n.s.
Days competitive work (past 30)	5.1	8.5	—	—	—	—	—
Days non-competitive work (past 30)	3.3	6.7	—	—	—	—	—
Days work (any) (past 30)	8.4	9.5	—	—	—	—	—
Health status							
Diagnoses							
Schizophrenia	7%	24	n.s.	–0.142**	–0.134*	n.s.	n.s.
Mood disorder	35%	109	n.s.	n.s.	n.s.	n.s.	n.s.
PTSD	6%	20	n.s.	n.s.	n.s.	n.s.	n.s.
Personality disorder	35%	109	0.166**	n.s.	n.s.	n.s.	n.s.
Substance abuse (Alcohol or drug)	83%	253	n.s.	n.s.	n.s.	n.s.	n.s.
Symptom burden (SCL-30/0-4)	1.1	0.8	n.s.	n.s.	0.170**	0.258***	0.320***
Mental health status (SF-12/0-100)	42	14	n.s.	n.s.	n.s.	n.s.	n.s.
Psychiatric problems (ASI-psych/0-1)	0.32	0.27	0.299***	–0.175**	n.s.	n.s.	n.s.
Drug problems (ASI-drug/0-1)	0.17	0.13	n.s.	n.s.	n.s.	n.s.	n.s.
Alcohol problems (ASI-alcohol/0-1)	0.36	0.28	n.s.	n.s.	n.s.	n.s.	n.s.
Used alcohol (past 30)	58%	181	–0.115*	n.s.	n.s.	n.s.	n.s.
Days used alcohol	13	12	—	—	—	—	—
Used illicit drugs (past 30)	53%	166	n.s.	n.s.	n.s.	n.s.	n.s.
Days used drugs	16	11	—	—	—	—	—
Physical health status (SF-12/0-100)	47	9	n.s.	n.s.	0.138*	n.s.	n.s.
Community adjustment							
Family instability (0-14)	4.9	2.9	n.s.	n.s.	0.118*	n.s.	n.s.
Ever arrested & charged	81%	250	0.173**	n.s.	n.s.	n.s.	n.s.
Social support (0-10)	2.8	1.8	n.s.	n.s.	n.s.	n.s.	n.s.

—Characteristic excluded from regression model.
n.s. Not significant.
*$p < .05$.
**$p < .01$.
***$p < .001$.

enrolled in supported employment, which could confound the naturalistic examination of the relationship between attitudes towards employment and employment outcomes.

Participants were recruited through VA homeless outreach programs located at VA medical centers in Augusta, GA; Cincinnati, OH; Dallas, TX; Houston, TX; Los Angeles, CA; Pittsburgh, PA; Rochester, NY; Tampa, FL; and West Haven, CT.

Eligible veterans were (1) currently homeless, (2) not currently receiving VA health services, (3) expressed some interest in seeking competitive employment, and (4) agreed to be interviewed quarterly during a two-year follow-up period by VA research staff. Participants were considered currently homeless if they had an intake assessment from a specialized VA homeless program in the previous 90 days. Interest in competitive employment was assessed by asking prospective participants, "Are you interested in working for pay in the community—somewhere other than at the VA?" Individuals who responded "yes" to this question and presented to the interviewer as being genuinely interested in the possibility of competitive employment were eligible.

Baseline interviews were administered by independent research assistants, lasted an average of one and a half hours, and consisted of approximately 200 questions covering demographic characteristics, physical and mental health status, housing, military status and perceived risk of homelessness post-discharge, and other information. Patients gave written informed consent and were paid $10.00 for their time. Institutional Review Board approval was obtained at the authors' parent institution and at each of the nine VA medical center facilities participating in the study.

Measures

Adjustment to community living was measured by the size of social support networks and by lifetime incarceration. Clients were asked how many people they felt close to in each of nine relationship categories (e.g., parents, siblings, friends, health care providers). A continuous social support variable was computed by summing the number of persons in each of these nine relationship categories, indicating the total number of persons to whom the client felt close.

Clinical status items included psychiatric diagnoses, symptoms, medication, lifetime psychiatric hospitalization, substance abuse, and physical health. Primary psychiatric diagnoses were based on

clinical assessments by homeless outreach staff. Subjective distress was measured with 33 items from the SCL-90 (Derogatis, 1993). Further questions addressed use of medication, side effects, and past hospitalization. Use of alcohol and illicit drugs was assessed using composite indexes from the Addiction Severity Index (McLellan, Luborsky, & Woody, 1980). Clients rated their physical health using a five-point scale (Lehman, 1988) and identified the number of physical health problems out of a possible 13 conditions for which they had received treatment (including the taking of prescribed medication) during the past 60 days. A chronic medical problems index was created by summing client responses to each of these 13 conditions, which included 0 = no problem, 1 = had problem but received no treatment, and 2 = had problem and received treatment. Thus, the medical problems scale ranged from 0 to 26 points.

Sociodemographic and clinical status data were collected at baseline and then used to predict longitudinal employment outcomes data.

Employment Outcomes

Employment outcomes were represented by the number of days in the past 30 in which the veteran worked in any employment, competitive employment, and noncompetitive employment. Competitive employment was defined as "working for pay at a regular job." Noncompetitive employment was defined as either "working for pay at a casual, irregular, or temporary job" or "working in a work therapy program." Any employment was defined as the total number of days worked in either competitive or noncompetitive employment.

Employment outcome data were collected quarterly over a two-year follow-up period after entering the program

Analyses

First, factor analysis was used to identify and create measures for the five attitudes towards employment—the primary independent variables of interest. The mean score for all items belonging to a given factor (employment attitude) was then used as an independent variable in subsequent multivariate analyses. Thus, there were five primary independent variables of

interest—a mean score for each type of employment attitude identified through factor analysis. Then ordinary least squares linear regression was used to identify correlates of each attitude towards employment. Five regression models (one for each employment attitude) used the same 32 baseline characteristics (14 sociodemographic measures, 13 health status measures, three measures of community adjustment, and two measures of interest in vocational treatment) that were entered as blocks, using stepwise entry method to identify a parsimonious set of baseline characteristics significantly associated with each employment attitude The inclusion and exclusion criteria for both selecting and removing variables was $p < .10$.

Next, bivariate mixed model regression analyses were used to identify baseline characteristics associated with the three longitudinal, continuous measures of employment outcomes (days employment)—the dependent variables in this study. The mixed models are referred to as "bivariate" analyses because no covariates were included; rather, each baseline characteristic was regressed exclusively on each dependent variable using mixed model regression.

Finally, multivariate analyses were used to examine the association of attitudes towards employment and employment outcomes, net of baseline characteristics correlated with each employment outcome.

To examine factors significantly associated with longitudinal employment, repeated-measures with mixed-effects analytic strategy was used to adjust for potentially confounding covariates identified previously. This method was chosen to allow use of all available data from each client during each quarterly follow-up interval over the two-year follow-up period. The repeated-measures mixed-effects model approach was chosen because it allowed comparison of client employment outcomes averaged across all points in time (i.e., area under the curve) and adjusted for the correlation of data within subjects. These analyses were conducted using the MIXED procedure of SPSS 11.0 (SPSS Incorporated, Chicago, IL, 2001), with alpha $< .05$. Unstandardized regression coefficients are reported.

Ordinary least squares regression multiple r-squared statistics were also used to estimate the proportion of variance in employment outcomes explained by employment attitudes beyond that of baseline characteristics.

RESULTS

Employment attitude data were complete, so the number of cases included in this factor analysis was 309—the total sample size.

Attitudes Towards Work

A factor analysis of the 21 attitudes towards work items (varimax rotation) produced a five-component solution in which 19 of 21 items had loading scores of .50 or higher. These five types of employment attitudes included both positive and negative attitudes, with both internal (inward) and external (outward) focus/locus of control (Table 2). The "I can't work" attitude reflected various reasons why clients felt they were unable to work, such as being too old or too sick to work, and being too nervous and tired to work in a work rehabilitation program. This first factor explained 15% of the variation observed among employment attitude items. In contrast, factors two and three characterized clients as wanting to work, and viewing work as helpful in coping with problems, respectively. These two positive factors each explained 10% of the variance among items observed.

Interitem reliability analyses of these first three factors having an internal focus (locus of control) confirmed internal consistency among included items, which loaded 0.43 to 0.74. Cronbach alpha values ranged from .61 to .77 (Table 2).

Like the first factor, the last two factors represented negative attitudes towards work. In contrast, each exhibits an external locus of control. The fourth factor, "I don't like the jobs I get," was generally pessimistic regarding the availability of jobs and the effectiveness of work rehabilitation programs. The fifth attitude towards work found was "Others expect me to work," expressed concern that others would view the client negatively if he/she did not work. While factor loadings for these two negative categories were generally high (0.53 to 0.74), interitem reliability analyses indicated less cohesiveness among items within these two factors (with Cronbach alphas of .39 and .55). These two factors explained an additional 18% of variation among employment attitude items.

Mean subscale scores ranged from 1.70 for the "can't work" factor to 3.60 for the "wanting to work" factor, on a scale from 1 (strongly disagree) to 4 (strongly agree) (Table 2). Bivariate

TABLE 2. Factor analysis rotated component matrix*

Employment Attitude Item	Factor 1: I can't Work (8 items)	Factor 2: I want to Work (3 items)	Factor 3: Work Helps me Cope w/problems (4 items)	Factor 4: I don't Like Jobs I get (4 items)	Factor 5: Others Expect me to Work (2 items)
1. I am too old to work.	**0.68**	–0.18	–0.09	0.14	0.00
2. I'm too sick to work.	**0.65**	–0.14	0.05	0.02	–0.18
3. I get too nervous and tired from being in a work rehabilitation program.	**0.59**	–0.11	–0.27	0.36	0.18
4. The stress of work makes me use alcohol or drugs.	**0.59**	0.00	0.12	0.00	0.06
5. I worry that people at work will be able to tell that I have emotional problems or substance abuse problems.	**0.57**	–0.12	0.04	–0.04	0.40
6. I really don't want to work.	**0.56**	–0.32	–0.15	0.13	0.16
7. I am afraid that being in a work rehabilitation program will reduce the disability benefits I get.	**0.48**	–0.09	–0.14	0.45	–0.23
8. Work rehabilitation programs can't help me to get a job because there are just no jobs available for people like me.	**0.43**	–0.05	0.02	0.38	0.35
%variation explained	15.3				
9. I see myself holding a paying job in the next year.	–0.23	**0.74**	0.12	–0.07	0.04
10. Working makes me feel good about myself.	–0.21	**0.74**	0.24	–0.10	0.01
11. I want to work in order to make more money.	0.00	**0.68**	0.13	–0.11	0.08
%variation explained		10.2			
12. Working helps me cope with my problems.	–0.16	0.18	**0.71**	–0.05	–0.07
13. Having a job helps me forget, for a while, that I have emotional problems or substance abuse problems.	0.28	–0.02	**0.61**	0.06	0.20
14. I want other people to find out how good I really can be at work.	–0.04	0.22	**0.59**	–0.05	–0.02
15. I want my work to provide me with opportunities for increasing my knowledge and skill.	–0.26	0.32	**0.50**	0.14	–0.23
%variation explained			10.0		
16. I feel that most jobs are pretty boring and routine.	0.05	–0.20	0.11	**0.69**	0.28
17. Work rehabilitation programs don't really help you to get a job.	0.47	0.14	–0.13	**0.57**	–0.02
18. I am disappointed with the kind of jobs I get.	0.12	–0.29	0.36	**0.55**	0.26
19. I want to be in a work rehabilitation program because I really want to make some changes in my life.	0.07	0.07	0.47	**–0.53**	0.09
% variation explained				9.4	
20. Sometimes I feel that I have to work because it is expected of me, and not because I really want to.	0.22	–0.04	0.08	0.14	**0.74**
21. My family and friends might think poorly of me if I didn't try to work.	–0.19	0.23	–0.09	0.06	**0.67**
% variation explained					8.1
Cronbach's alpha for sub-scale	.77	.69	.61	.53	.39
Mean (SD) for sub-scale	1.7 (.40)	3.6 (.42)	3.2 (.48)	2.4 (.68)	2.4 (.60)
Range (Minimum–Maximum)	1.0–3.0	2.0–4.0	1.5–4.0	1.0–4.0	1.0–4.0

*Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

correlations among subscales ranged from an absolute value of .01 to .44. Of the ten inter-correlations, three were less than .10, two were between .10 and .19, two fell between .20 and .29, one fell between .30 and .39, and two were between .40 and .44.

Correlates of Employment Attitudes

Clients who viewed themselves as being unable to work had less education were more likely to be planning to apply for disability benefits, have a personality disorder, have more serious psychiatric problems, and have criminal records than other clients (Table 1). In contrast, clients viewing themselves as capable of working and wanting to work were younger, less likely to be planning to apply for disability benefits, less likely to have a diagnosis of schizophrenia, and had fewer psychiatric problems.

Clients who viewed employment as a means of helping to cope with their problems, those dissatisfied with the types of job they obtained in the past, and those who felt pressured to work by others were more distressed by psychiatric symptoms than other clients. Those viewing employment as a means of coping with problems also expressed greater interest in receiving traditional vocational treatment, in contrast to those dissatisfied with past jobs who expressed less interest in receiving such treatment (Table 1).

Baseline Correlates of Employment Outcomes

Clients who were younger, male, single, recently housed, and who had worked more days at the time of entering the program (i.e., at baseline) worked a greater number of days during the two-year follow-up period than other clients (Table 3). In contrast, those who were either intending to apply or were already receiving disability benefits at program entry were less likely to work throughout the two-year follow-up period. Clinically, clients diagnosed with a serious mental illness, those experiencing subjective distress due to psychiatric symptoms, and those having more serious psychiatric problems were also less likely to work, whereas clients having substance abuse problems and those in better physical health were more likely to work.

Somewhat surprisingly, clients who experienced less stability in their family of origin and those having less current social support

TABLE 3. Bivariate correlates of baseline characteristics and longitudinal (two-year) employment outcomes (Regression coefficients from bivariate mixed regression models, without the inclusion of any covariates)

	No. of Days Any Type Work (N = 298) # Coefficient	No. of Days Competitive Work (N = 302) Coefficient	No. of Days Non-Competitive work (N = 298) # Coefficient
Sociodemographics			
Age	–0.08**	–0.09***	0.01
Male	5.80***	3.51***	2.20***
Race/ethnicity			
Caucasian	–0.05	–0.05	–0.26
Black	0.02	–0.02	0.18
Hispanic	–0.47	0.23	0.05
Marital status			
Married	–3.88***	–2.41**	–1.53*
Divorced/widowed	–0.01	0.45	–0.43
Single (never married)	1.04*	0.14	0.88*
Education (yrs.)	0.10	0.25*	–0.16
Days homeless (past 30)	–0.02*	–0.04***	0.02***
Duration of homelessness			
Less than six months	0.03	0.06	–0.06
6–12 months	–1.11	–1.01	0.11
>one year	0.44	0.36	0.01
Quality of life (overall) (1–7)	–0.05	–0.11	0.14
Intending to apply for disability	–6.70***	–4.09***	–2.26***
Receiving disability benefits	–6.78***	–4.21***	–2.22***
Disability income	–0.001*	–0.001*	–0.00004
Total income (past 30)	0.001**	0.001***	–0.0001
Days competitive work (past 30)	0.17***	0.23***	–0.08***
Days noncompetitive work (past 30)	0.15***	–0.04	*0.25***
Days work (any) (past 30)	0.26***	0.19***	0.11***
Health status			
Diagnoses			
Schizophrenia	–0.05**	–0.03	–0.03*
Mood disorder	–1.17*	–0.90*	–0.31
PTSD	–1.37	–0.83	–0.29

(Continued)

TABLE 3. Continued

	No. of Days Any Type Work (N = 298) # Coefficient	No. of Days Competitive Work (N = 302) Coefficient	No. of Days Non-Competitive work (N = 298) # Coefficient
Personality disorder	−1.21**	−2.06***	0.53
Substance abuse (Alcohol or drug)	0.05	0.01	0.17
Symptom burden (SCL–30/0–4)	−1.06***	−0.92**	−0.25
Mental health status (SF–12/0–100)	0.06***	0.05**	0.01
Psychiatric problems (ASI-psych/0–1)	−2.76**	−2.51**	−0.58
Drug problems (ASI-drug/0–1)	3.54*	2.01	1.12
Alcohol problems (ASI-alcohol/0–1)	1.80*	0.54	1.05
Used alcohol (past 30)	0.97*	0.17	0.79*
Days used alcohol	0.08***	0.02	0.04**
Used illicit drugs (past 30)	0.28	−0.36	0.67*
Days used drugs	−0.04	−0.04	0.00
Physical health status (SF–12/0–100)	0.13***	0.10***	0.02
Community adjustment			
Family instability (0–14)	0.18*	0.11	0.03
Ever arrested & charged	1.04	1.25*	−0.41
Social support (0–10)	−0.27*	−0.16	−0.07
Interest in vocational treatment			
Traditional (0–100)	−0.01	−0.01	0.002
IPS (0–100)	0.01	0.01	0.01

Noncompetitive employment outcome data were missing for four participants (e.g., 304−4 = 298).
*p < .05.
**p < .01.
***p < .001.

were *more* likely to work than other clients. One possible explanation for this is that clients with smaller social support networks have fewer people whom they can depend on to provide assistance when needed, and thus may have greater motivation in finding employment to support themselves.

Multivariate Analysis of Predictors of Employment

Eighteen baseline characteristics bivariately found to be associated with employment outcomes (Table 3) were included in multivariate regression models (Table 4). These included age, gender, marital status, educational attainment, length of most recent period of homelessness, lifetime incarceration, disability status, income, psychiatric diagnosis, subjective distress/burden caused by psychiatric symptoms, mental health status, psychiatric problems, and physical health status.

After adjusting for these 18 potentially confounding baseline characteristics, four attitudinal factors remained significantly associated with overall employment: two with competitive employment, and one with noncompetitive employment (Table 4). Veterans who worked more than others scored higher on a subscale reflecting favorable attitudes towards work and, unexpectedly, on a subscale indicating that they did not like the kind of jobs they could

TABLE 4. Association of attitudes towards employment and longitudinal (two-year) employment outcomes (adjusting for potential confounding baseline client chartacteristics)

Attitudes towards employment	Days Any Employment (N = 302) Coefficient	Days Competitive Employment (N = 302) Coefficient	Days Non-Competitive Employment (N = 302) Coefficient
I can't work	−1.45*	−1.02	−.18
I want to work	1.51*	.84	.35
Work helps me cope with my problems	−1.68**	−1.19**	−.20
I don't like the jobs that I get	.71*	.60*	<−.01
Others expect me to work	.72	−.09	.58*
Incremental R-squared #			
Demographic & clinical characteristics	.169	.132	.104
Employment attitudes	.013	.009	.004

Calculated using linear regression in which all potentially confounding baseline characteristics were entered as first block of predictors, followed by all five employment attitude factors as second set of predictors.
*p < .05.
**p < .01.
***p < .001.

obtain. Perhaps the actual stressors of working more than offset the perceived coping and related mental health-promoting advantages of working, resulting in these clients working less throughout the entire two-year follow-up period.

In contrast, veterans who scored higher on a subscale indicating that they perceived work as helpful in coping with mental health problems, worked more days than others. Given the relatively low-pay, and high-demand jobs that formerly homeless individuals with psychiatric and substance abuse problems are likely to attain, it is plausible that clients might not like such jobs, but perhaps had to work at them to support themselves. Clients who felt obliged to work due to expectations of family members and friends worked more days than other clients who were in noncompetitive jobs only.

However, the magnitude of these effects was small, explaining only an additional 1% of the variation in employment outcomes observed (R-squared) beyond the 10–17% of variation accounted for by client demographic and clinical characteristics at program entry (Table 4).

DISCUSSION

These findings provide support for those advocating minimal inclusion and exclusion criteria for vocational rehabilitation services for persons with psychiatric and substance abuse problems who express interest in seeking competitive employment. Although attitudes towards employment were found to be significantly associated with employment outcomes, the effect sizes were small and together explained about 1% of the variance in the number of days worked over the two years following entry into the program.

Additionally, few nonattitudinal client characteristics were found to be significantly associated with employment outcomes; although, significant effects were noted for the number of days worked during the month prior to entering treatment, intended application or receipt of disability benefits, and levels of mental and physical health functioning. These and other client characteristics accounted for 15% of the variation observed in the number of days worked overall, and suggest that the possibility of predicting which clients will be more likely to attain employment after entering treatment is quite limited.

Although employment rates were not the dependent variable used in this study and in the bivariate and multivariate analyses presented above, we calculated one- and two-year employment rates among this sample to allow for comparison with previous empirical studies examining the association of employment attitudes on employment outcomes. Among the 215 clients for which 12-month employment outcome data were available, 37% were competitively employed and 23% were noncompetitively employed. Employment rates decreased to 27% and 20%, respectively, at 24-month follow-up, among the 205 clients for which employment data were available.

Competitive employment rates averaging around 30% observed among this sample of homeless veterans were comparable to those of persons with schizophrenia treated in a family psychoeducation program who expressed interest in work and who made efforts to find work, but who did not receive supportive employment (Mueser et al., 2001). Yet, these rates were well below those of persons with serious mental illness randomly who were randomly assigned to one of two widely implemented service models—a Program of Assertive Community Treatment or a club-house program certified by the International Center for Clubhouse Development, Inc.—each of which includes vocational rehabilitation treatment components. Employment rates in these two programs ranged from 50% among those who expressed no initial interest in work to 68% among those interested in work (Macias et al., 2001).

Furthermore, the employment rates reported here are also less than the 40–60% range of employment rates among people with serious mental illness receiving supported employment as reported in a recent review of the supported employment outcomes literature (Bond, 2004).

Limitations

The major limitation of this study is its limited generalizability. The unavailability of comparable data from domiciled veterans, the inclusion of only homeless veterans receiving VHA treatment, and those who expressed interest in obtaining competitive employment limit the generalizability of these findings beyond formerly homeless veterans with psychiatric and substance abuse problems receiving services from the VHA who are interested in seeking competitive employment. Also, the findings of this study may not

apply to vocational rehabilitation programs based on supported employment or IPS models.

In addition, our measurement of employment attitudes was based on the limited items developed for the Social Security Administration's Project NetWork. A wider range of items, such as the 43-item Employment Readiness Scale (Alfano, 1973), might have more successfully predicted employment outcomes.

Furthermore, the validity of self-report measures and clinician-rating/observation measures (e.g., diagnosis) is uncertain.

Finally, any comparison of findings from this study to previous studies of supported employment among people with serious mental illness must acknowledge important differences in the target population.

CONCLUSION

Attitudes towards employment are significantly associated with employment outcomes, albeit of small magnitude. Further examination of factors associated with employment outcomes, as well as other therapeutic outcomes, may eventually assist vocational rehabilitation specialists and program managers in matching subgroups of mental health consumers with various approaches to vocational treatment, but at present these data support the policy of offering vocational assistance to all who express an interest in it.

REFERENCES

Alfano, A.M. (1973). A scale to measure attitudes toward working. *Journal of Vocational Behavior, 3*, 329–333.

Becker, D.R. & Drake, R.E. (1993). *A working life: The individual placement and support (IPS) program*. Concord, NH: Hew Hampshire-Dartmouth Psychiatric Research Center.

Becker, D.R. & Drake, R.E. (1994). Individual placement and support: A community mental health center approach to vocational rehabilitation. *Community, Mental Health Journal, 30*, 193–206.

Blankertz, L. & Robinson, S. (1996). Adding a vocational focus to mental health rehabilitation. *Psychiatric Services, 47*, 1216–1222.

Bond, G.R. (1998). Principles of the individual placement and support model of supported employment: Empirical support. *Psychiatric Rehabilitation Journal, 22*, 11–23.

Bond, G.R. (2004). Supported employment: Evidence for an evidence-based practice. *Psychiatric Rehabilitation Journal, 27*, 345–359.

Bond, G.R., Becker, D.R., Drake, R.E., & Vogler, K. (1997). A fidelity scale for the individual placement and support model of supported employment. *Rehabilitation Counseling Bulletin, 40*, 265–284.

Bond, G.R., Vogler, K.W., Resnick, S.G., Evans, L.J., Drake, R.E., & Becker, D.R. (2001). Dimensions of supported employment: Factor structure of the IPS fidelity scale. *Journal of Mental Health, 10*, 383–394.

Center for Mental Health Services. (2005). Employment Intervention Demonstration Program. Department of Psychiatry, University of Illinois at Chicago. Retrieved on 9/20/06 from http://www.psych.uic.edu/EIDP/.

Derogatis, L.R. (1993). *Brief Symptom Inventory (BSI) administration, scoring, and procedures manual*. (3rd ed). Minneapolis, MN National Computer Systems.

Drake, R.E. (1998). Individual placement and support: Special issue. *Psychiatric Rehabilitation Journal, 22*, 3–7.

Drake, R.E. & Becker, D.R. (1996). The individual placement and support (IPS) model of supported employment. *Psychiatric Services, 47*, 473–475.

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

Drebing, C.E., Rosenheck, R.A., Schutt, R., Kasprow, W.J., & Penk, W. (2003). Patterns in referral and admission to vocational rehabilitation associated with coexisting psychiatric and substance-use disorders. *Rehabilitation Counseling Bulletin, 47*, 15–23.

Gervey, R., Parrish, A., & Bond, G.R. (1995). Survey of exemplary supported employment programs for persons with psychiatric disabilities. *Journal of Vocational Rehabilitation, 5*, 115–125.

Kashner, T.M., Rosenheck, R., Campinell, A.B., Suris, A., Crandall, R., Garfield, N.J., Lapuc, P., Pyrcz, K., Soyka, T., & Wicker, A. (2002). Impact of work therapy on health status among homeless, substance-dependent veterans: A randomized controlled trial. *Archives of General Psychiatry, 59*, 938–945.

Kornfeld, R. & Rupp, K. (2000). The net effects of the Project NetWork return to work case management experiment on participant earnings, benefit receipt, and other outcomes. *Social Security Bulletin, 63*, 12–33.

Leda, C. & Rosenheck, R.A. (1992). Mental health status and community adjustment after treatment in a residential treatment program for homeless veterans. *American Journal of Psychiatry, 149*, 1219–1224.

Lehman, A.F. (1988). A quality of life interview for the chronically mentally ill. *Evaluation and Program Planning, 11*, 51–52.

Macias, C., DeCarlo, L.T., Wang, Q., Frey, J., & Barreira, P. (2001). Work interest as a predictor of competitive employment: Policy implications for psychiatric rehabilitation. *Administration and Policy in Mental Health, 28*, 279–297.

McLellan, A.T., Luborsky, L., & Woody, G.E. (1980). An improved diagnostic evaluation instrument for substance abuse patients: The addiction severity index. *Journal of Nervous and Mental Disease, 168*, 26–33.

Mueser, K.T., Salyers, M.P., & Mueser, P.R. (2001). A prospective analysis of work in schizophrenia. *Schizophrenia Bulletin, 27*, 281–296.

Priebe, S., Warner, R., Hubschmid, T., & Eckle, I. (1998). Employment, attitudes toward work, and quality of life among people with schizophrenia in three countries. *Schizophrenia Bulletin, 24*, 469–477.

Rosenheck, R.A., Frisman, L.K., & Gallup P.G. (1995). Effectiveness and cost of specific treatment elements in a program for homeless mentally ill veterans. *Psychiatric Services, 46*, 1131–1139.
Rosenheck, R.A. & Seibyl, C.L. (2005). A longitudinal perspective on monitoring outcomes of an innovative program. *Psychiatric Services, 56*, 301–307.
SPSS Incorporated. (2001). *SPSS 11.0 for Windows*. Author: Chicago, IL.

American Journal of Psychiatric Rehabilitation, 9: 167–190
Taylor & Francis Group, LLC © 2006
ISSN: 1548-7768 print/1548-7776 online
DOI: 10.1080/15487760600961543

Routledge
Taylor & Francis Group

Examining Work Delay in Young Adults with Schizophrenia

Deborah Gioia

School of Social Work, University of Maryland, Baltimore, Maryland, USA

Work delay as a dimension of work restoration in young adults with schizophrenia has not been explored with much frequency in the vocational rehabilitation literature; and it has never been explored and analyzed from the subjective experience of the person with the disorder. In this exploratory, mixed-method study of 20 first-episode young adults diagnosed with schizophrenia who returned to work, there were many dimensions to explore with in-depth interviews about the process of work re-engagement. However, it was a striking finding that the length of time to first job ranged from 1–65 months. There are several possible correlates in the literature to consider when looking at work delay. This study yielded qualitative themes that were mostly congruent with the literature and were split between illness-related factors (e.g., symptoms, medication side-effects) and non-illness-related factors (e.g., childcare, job training). In addition, messages from mental health professionals and families about returning to work and fears related to symptom return on the job were prominent themes in this study. Implications for psychosocial rehabilitation and career counseling interventions are discussed.

Keywords: First-episode schizophrenia; Mixed methods; Work delay

Engagement in competitive work is central to the ongoing life task of forming a vocational identity, and contributes to the general well-being and self-efficacy of most young adults as they strive to create their vocational future (Arnett, 2001). Severe mental illnesses,

Study support: NIMH RO3 MH60481-01 (Gioia-Hasick, PI).
Address correspondence to Deborah Gioia, Ph.D., University of Maryland, School of Social Work, Baltimore, MD, USA. E-mail: dgioia@ssw.umaryland.edu