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Propensity to Work Among Chronically Unemployed Adult Drug Users

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Abstract

Analyses were conducted to compare rates of employment before, during, and after employment at the therapeutic workplace, which is a novel employment-based treatment for drug misuse. Participants in two clinical trials attended the therapeutic workplace at higher rates than they worked before intake and six months after discharge. These data suggest that unemployed chronic drug misusers will attend work at higher rates at the therapeutic workplace than in the community when paid modest wages, and that the failure of chronic drug misusers to obtain employment in the community may not result from lack of interest in work.

Keywords

drug misuse; employment; therapeutic workplace; vocational training

INTRODUCTION

Employment rates among adults entering drug user treatment¹ are generally low and range from 15% to 35% (Platt, 1995), and approximately 15% of chronic drug misusers not in treatment are employed (McCoy, Comerford, & Metsch, 2007). In comparison, employment rate in the civilian labor force in the general population was 63.4% in 2000 according to the U.S. Census Bureau (2000). Employment for drug misusers has been associated with improved retention in treatment (Platt, 1995), increased abstinence (Ginexi, Foss, & Scott, 2003; Scorzelli, 2007; Sterling et al., 2001), and improved social functioning (Sterling et al., 2001). At the same time, drug misusers in treatment or exiting treatment face many barriers (Magura, 2003; Meara, 2006) when entering the job market. They may lack relevant

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Declaration of Interest

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¹Treatment can be briefly and usefully defined as a planned, goal-directed, temporally structured change process of necessary quality, appropriateness, and conditions (endogenous and exogenous), which is *bounded* (culture, place, time, etc.) and can be categorized into professional-based, tradition-based, mutual-help based (AA, NA, etc.), and self-help (“natural recovery”) models. There are no unique models or techniques used with substance users—of whatever types and heterogeneities—which are also not used with nonsubstance users. In the west, with the relatively new ideology of “harm reduction” and the even newer Quality of Life (QOL) treatment-driven model, there is now a new set of goals in addition to those derived from/associated with the older tradition of abstinence-driven models. Treatment is implemented in a range of environments: ambulatory, within institutions, which can include controlled environments. Editor’s note.

education and work skills (Lidz, Sorrentino, Robinson & Bunce, 2004; Magura & Staines, 2004; Wong & Silverman, 2007), as well as interviewing skills and “soft skills” such as interpersonal communication, punctuality, and dressing appropriately for work (Holzer & Wissoker, 2001), and problems related to transportation and childcare may constitute further barriers to employment (Zanis, Coviello, Alterman, & Appling, 2001). Another commonly cited barrier to employment among drug misusers is low interest in employment (e.g., Zanis et al., 2001).

Perhaps, as a result of employment barriers such as low levels of education, the types of jobs available to former drug misusers are likely to involve low levels of pay and benefits (Kidorf, Neufeld, & Brooner, 2004), which may further lead to low job retention. Providing vocational training as part of drug abstinence-oriented treatment has a potential to improve employment-seeking behaviors, increase chances of securing employment, improve employment retention, and lead to higher paying jobs. However, that potential has not been fully realized as of yet. For example, McIntosh, Bloor, and Robertson (2008) found that receiving any kind of employment-related assistance, regardless of modality, was highly correlated with obtaining paid employment following treatment, but only 10% of participants were employed at 33-month follow-up assessment. A related concern is that when prevocational services are offered to this population, engagement in the programs tends to be low (Kang, Magura, Blankertz, Madison, & Spinelli, 2006).

Most vocational training programs to date have focused on pre-employment behaviors (locating job opportunities, job interview skills, etc.). Vocational problems-solving skills (VPSS) training involves activities such as realistic goal setting for employment, identifying resources for employment opportunities, and taking appropriate steps to obtain a job. Zanis et al. (2001) provided 10 sessions of VPSS to participants in methadone maintenance treatment and found that it did not have a positive effect on employment outcomes at 6-month follow-up. Coivello, Zanis, and Lynch (2004) further found that VPSS did not result in an increase in motivation to become employed or an increase in specific job-seeking activities for the same population. Lidz et al. (2004) provided participants with: (1) training in vocational problem-solving, (2) a job-seekers workshop, or (3) both. None of the interventions resulted in improved participant employment outcomes. Customized employment supports (Magura, Blankertz, Madison, Friedman, & Gomez, 2007) represent a relatively recent approach to prevocational services, in which counselors work intensively with a small number of clients to obtain work quickly. This approach has some promising, albeit mixed, initial outcomes.

Training for only pre-employment behaviors (and not specific job skills) does not appear to be particularly effective for the general population either. Work Advancement and Support Centers (One-Stop Career Centers sponsored by the U.S. Department of Labor) provide career coaching, basic skills development, and coaching about work supports for low-wage workers for the purposes of gaining more welfare support and increasing earnings. While these centers have encountered positive welfare outcomes, they have not yet proven to be effective in improving employment outcomes (Miller, Tessler, & Van Dok, 2009). One possible reason for low impact on employment outcomes is low participation, as only 37%–42% of participants receiving support from Work Advancement and Support Centers made contact with staff or case managers in the 4 weeks prior to time of assessment.

While it is clear that employment interventions for unemployed drug misusers have not been very successful, we do not know why they have failed to promote employment. One factor that has not been adequately examined is unemployed drug misusers' interest or motivation to work. A number of observers have suggested that this population generally has little interest in employment (e.g., Zanis et al., 2001), while others have observed high levels of

interest (e.g., Laudet, Magura, Vogel, & Knight, 2002).² However, in these studies, “interest” or “motivation to work” is assessed through questionnaires that ask participants to rate their interest or motivation to work. A more direct method of assessing “motivation to work” would be to measure the extent that individuals actually work when given the opportunity. Unfortunately, these kind of data have not been available.

A recent program of research evaluating a novel employment-based treatment for drug addiction and chronic unemployment called the *therapeutic workplace* (Silverman et al., 2005) has provided a unique opportunity to examine the propensity of chronically unemployed drug misusers to work when given the opportunity. Under this intervention, chronically unemployed adults are explicitly recruited and invited to work in an intensive training and employment program in which they are paid about \$10 per hour for working and can work between 4 and 6 hr every weekday for 6 or more months. To promote therapeutic behavior change (e.g., drug abstinence or adherence to drug user treatment medication), employment-based reinforcement contingencies are arranged in which participants are required to engage in selected behaviors (e.g., drug abstinence or medication adherence) to maintain access to the workplace. This research has primarily focused on evaluating the effectiveness of the employment-based reinforcement contingencies in promoting drug abstinence and medication adherence. Although participants will not reliably attend the workplace when the pay is very low, this research has shown that when offered a standard pay of about \$10 per hour, many chronically unemployed adults will attend the therapeutic workplace very reliably over many months (DeFulio, Donlin, Wong, & Silverman, 2009; Donlin, Knealing, Needham, Wong, & Silverman, 2008; Silverman, Svikis, Robles, Stitzer, & Bigelow, 2001; Silverman, Svikis, et al., 2002; Silverman, Wong, et al., 2007). Overall, these data suggest that these individuals are interested in employment and that their employment problems may not be due to lack of interest in employment.

The primary purpose of the current study was to determine whether low levels of employment in this population result from a general lack of interest in employment by using an objective measure of interest or motivation to work. To assess this, we formally examined rates of attendance in the therapeutic workplace and compared those rates with rates of employment in the community. Specifically, we compared levels of employment prior to intake, during employment in the therapeutic workplace, and at 6-month follow-up among participants. If these individuals do indeed attend the workplace at higher rates than they work in the community, that would suggest that participants will work when given the opportunity, and their lack of employment in community jobs does not result completely from a lack of interest in employment. For these analyses, we conducted secondary analyses from two randomized clinical trials that evaluated the effects of the therapeutic workplace on drug abuse related outcomes.

METHOD

Participants and Setting

Participants were selected for inclusion in the current analysis if they had been randomized to an experimental condition in one of the two clinical trials conducted at the therapeutic workplace and had completed employment assessments at intake, discharge, and 6-month follow-up. In order to be eligible for participation in studies at the therapeutic workplace, participants had to meet certain criteria for drug dependence (explained in more detail

²The reader is reminded that substance users, of whatever types of use, manner, and patterns of use, and types of drugs used, represent a heterogeneous population and not a homogeneous one. Effective program planning and implementation needs to be sensitive to this reality, while the reality of limited intervention resources can and does effect such “matching.” Editor’s note.

below), and (1) to have been without employment in the past 30 days, or (2) worked in the past 30 days but received less than \$200 in wages during that time.

A total of 125 participants were randomized, and of those, 103 completed participation. Six-month follow-up interviews were conducted with 105 participants, but follow-up data from six of those 105 participants were not complete enough to be included in the present analysis. Demographic variables for participants in both clinical trials are reported in Table 1. Job histories and job categories reported via the Addiction Severity Index (ASI) Lite –CF, Clinical/Training Version (Treatment Research Institute, Philadelphia, PA, US; McLellan, Luborsky, Woody, & O'Brien, 1980) for last full-time positions held by participants are displayed in Table 2. Employment patterns for participants in the 3 years prior to intake were established via employment-related questions on the ASI and are displayed in Table 3.

The therapeutic workplace is a research facility based in Baltimore, Maryland, devoted to addressing the interrelated problems of addiction and poverty. In all studies, participants were invited to attend the workplace where they could work and earn wages in vouchers exchangeable for goods and services. Vouchers were used instead of cash to reduce the chance that participants would use their earnings to purchase drugs. Some participants in these studies were exposed to employment-based reinforcement contingencies in which they had to abstain from drug to maintain daily access to the workplace.

While enrolled at the therapeutic workplace, all participants worked on computer-based vocational training programs, which focused on improving typing and keypad entry skills. Participants were offered to work from 4 to 6 hr per day for 5 days a week. On Mondays, Wednesdays, and Fridays, participants were required to leave urine samples in a urinalysis lab prior to commencing work. Participants were supervised by classroom staff (one classroom supervisor and one to two classroom assistants) who monitored participants' presence in the classroom and provided assistance to participants upon request. Staff also monitored progress in training programs and provided assistance when participants failed to progress adequately. Participants were only paid for attendance when they were physically present in a classroom. During intake and at every transition to different experimental conditions, participants received instructions from staff that detailed all procedures.

Approximately 6 weeks prior to discharge, participants received referrals and resources related to educational opportunities, vocational training, and placement services such as the Maryland Division of Rehabilitative Services, Goodwill Industries of the Chesapeake, Inc., and Baltimore City One-Stop Job Centers. The main results of Studies 1 and 2 have been published previously (Silverman, Wong, et al., 2007 and Donlin et al., 2008, respectively).

Study 1

Participants—Participants ($N = 54$) were at least 18 years old, were unemployed, were enrolled in a methadone maintenance program at intake, displayed noticeable track marks, self-reported cocaine use and intravenous drug use, passed a reading assessment screening test, and tested positive for cocaine at intake.

Independent variable manipulation—Following a 4-week long baseline period, participants were randomly assigned to one of the following two groups: (1) abstinence and work group, or (2) work-only group (control). Of all participants who started the 4-week baseline period, 72% were randomized. All participants were offered 7 months of training in the therapeutic workplace. Abstinence and work group participants had to demonstrate recent abstinence from cocaine (as evidenced by urinalysis results of samples left on Mondays, Wednesdays, and Fridays) to enter the workplace, work, and earn vouchers. Participants in the work-only group had no contingencies for cocaine abstinence but were

still required to provide urinalysis samples according to the same schedule as participants in the abstinence group. See Silverman, Wong, et al. (2007) for a detailed description of the procedures used in this study and for a description of main results of this trial [i.e., the effects of the experimental interventions of cocaine use and human immunodeficiency virus (HIV) risk behaviors].

Study 2

Participants—Participants ($N = 45$) were at least 18 years old, were unemployed, were enrolled in a methadone maintenance program at intake, were welfare recipients in Baltimore city, met the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) criteria for cocaine dependence, provided a cocaine-positive urine sample at intake, and passed a reading assessment screening test. In order to be randomized, participants had to meet certain attendance criteria and pass milestones on keypad and typing training programs during a 26-week phase in which abstinence requirements for cocaine, opiates, and alcohol were sequentially introduced. Of all participants who started the 26-week abstinence period, 40% were randomized. Participants also had to provide opiate-and cocaine-negative urine samples on 80% of the urine collections in the final 4 weeks of the first 5 months of the 26-week phase.

Independent variable manipulation—During the 26-week initial phase, participants received training in data entry skills in addition to typing and keypad training (see Donlin et al., 2008 for a detailed description of the procedures and main outcomes of this phase of the study). Following that phase, participants who initiated cocaine abstinence, continued attending the workplace, and acquired a minimum set of typing skills were randomly assigned to one of the two groups: (1) employment-only, or (2) abstinence-contingent employment. Employment-only participants were offered employment for 1 year as data entry operators in the therapeutic workplace business, but did not have to provide drug-free urine samples to work and earn a wage. Abstinence-contingent employment participants were offered employment for 1 year as data entry operators in the therapeutic workplace business and were required to provide drug-free urine samples to work and earn a wage. All participants earned pay checks and could work for 6 hr per day during this time (see DeFulio et al., 2009 for more details on the employment phase).

Employment Measure: Days Worked per Month

Intake and follow-up—ASI was administered at intake and at 6-month follow-up assessments following discharge. Employment information was obtained through question #11 of the employment section of the ASI: “How many days were you paid for working in the past 30 days?” An accompanying comment for that particular item further stated: “Include ‘under the table’ work, paid sick days, and vacation.”

Therapeutic workplace attendance—Average monthly attendance at the therapeutic workplace was assessed during the first 6 months of participation following randomization. An attendance day was recorded if a participant was logged on to the therapeutic workplace training software for at least 15 min during that day. A work-month was defined as 20 consecutive weekdays in order to obtain a conservative measure of attendance. We created the work-month measure to enable us to compare rates of employment at the therapeutic workplace with employment at intake and follow-up. If a participant left the study before reaching the 6-month milestone, average monthly attendance was still based on 6 months in order to obtain a conservative measure of attendance.

Analytical Methods

For analytical purposes, we combined employment data from the two studies. We compared employment rates prior to intake, during therapeutic workplace, and after discharge using a repeated measures discriminant function analysis (Wilk's Λ).

RESULTS

Figure 1 displays average rates of work attendance across the phases of the study, as well as individual values. Participants attended the therapeutic workplace on average 12.14 ($SD = 5.04$) days per month, as compared to 0.98 ($SD = 3.71$) days of work on average in the month leading up to intake and 5.09 ($SD = 9.50$) days of work on average in the month leading up to 6-month follow-up assessment. Participants worked more during the 6 months when they were invited to work in the therapeutic work-place than they worked during the 30 days prior to intake (Wilks' $\Lambda = .249$, $F(1,97) = 302.73$, $p < .001$) or during the 30 days prior to the 6-month follow-up assessment (Wilks' $\Lambda = .692$, $F(1,96) = 42.68$, $p < .001$). There were no interactions between group assignment (treatments vs. control) and employment periods (prior to intake, during therapeutic workplace employment, and at follow-up). Finally, participants worked more during the 30 days prior to the 6-month follow-up assessment than during the 30 days prior to intake (Wilks' $\Lambda = .848$, $F(1,96) = 17.19$, $p < .001$). There was no interaction between group assignment (treatments vs. control) and employment periods.

DISCUSSION

These data suggest that drug misusers will attend work when offered the opportunity to engage in paid work. If participants attend the therapeutic workplace voluntarily, we can assume that they are interested in engaging in work, so these data also suggest that the failure to obtain employment in the community may not result from a general lack of interest in work. These data further indicate that other barriers to employment, such as transportation problems and access to daycare services, do not necessarily affect attendance at a workplace.

By providing modest wages for attending the therapeutic workplace, we were able to increase work attendance substantially in a population of chronically unemployed adult drug misusers. No interaction terms were significant, suggesting that there was no difference between treatment and control groups in terms of employment outcomes when comparing employment over the course of the study.

Employment at 6-month follow-up was higher than at intake. The studies in which employment information is collected, participants usually report higher rates of employment at discharge as compared to intake (Platt, 1995). It is possible that participants enter treatment when they have "hit rock bottom" after prolonged drug abuse and extended absence from legal employment. In the current study, the somewhat higher employment rates observed at discharge as compared to intake may hence reflect this effect. A statistical regression effect could also explain our findings. Participants admitted to the study had to have low levels of recent employment at intake; so, higher levels at discharge may be attributed to the cyclical nature of employment in this population. An alternative explanation would be that therapeutic workplace employment led to increased employment at follow-up for a subsample of participants.

Providing fairly immediate incentives for work outcomes appears to be highly effective in motivating work attendance, but employment decreases significantly when such incentives are discontinued. One possible reason is that the training in typing and keypad data entry at the therapeutic workplace did not result in improved employment outlooks for the majority

of participants following discharge. It is also possible that possessing “soft” skills may be necessary for employment maintenance, in addition to skills training (“hard skills”). To illustrate, heroin users not in treatment are more likely to be employed if they possess the relevant knowledge and skills, and at the same time possess “social capital,” defined as engaging in behaviors consistent with “honesty, commitment, reliable performance of duties, and reciprocity” (Koo, Chitwood, & Sanchez, 2007, p. 1037). Participants in the therapeutic workplace routinely exhibit deficits in professional demeanor (Carpenedo et al., 2007; Wong & Silverman, 2007). Some lessons may also be learned from the literature on welfare recipients, prison populations, and young low-income workers. Absenteeism, attitudes toward work, and relations with coworkers are common reasons for welfare recipients failing to maintain employment (Holzer & Wissoker, 2001). Employability of female prison inmates is negatively affected by deficits in interpersonal skills and personal attitudes (Tonkin, Dickie, Alemagno, & Grove, 2004). Employment maintenance among low-income, low-skilled jobseekers may be aided by good problem-solving skills/interpersonal skills, good workplace coping strategies, taking the perspective of employers, and seeking appropriate assistance when employment-related problems arise (Fischer, 2005).

STUDY'S LIMITATIONS

One of the limitations of the current study is that employment at the therapeutic workplace is measured differently than employment at intake and at follow-up. In order to minimize the effect of this limitation on interpretation of results, we attempted to measure therapeutic workplace employment in a conservative manner. It may also appear odd to compare employment at intake with employment at the therapeutic workplace. One of the selection criteria for participation in studies at the therapeutic workplace was: (1) to have been without employment in the past 30 days, or else (2) worked in the past 30 days but received less than \$200 in salaries during that time. As a result, participants were bound to have worked very few days during the 30 days leading up to intake. The rationale for conducting the analysis was to demonstrate that chronically unemployed (as evidenced by low levels of full-time employment in the sample during the 3 years prior to intake) drug misusers could participate to a high degree in work-like activities when the correct contingencies were arranged. The demonstration that participants worked more in the therapeutic workplace than after leaving the therapeutic workplace (i.e., at the 6-month follow-up) provided additional evidence that the participants worked more in the therapeutic workplaces than in the community workplaces.

The aim of the therapeutic workplace is to gradually develop and shape skills to make participants better adjusted to future employment. The therapeutic workplace is not intended to be a real-world workplace, and therefore differs in important ways from other places of work. In the therapeutic workplace, participants are only paid for the exact amount of time that they are present in the work-room, and no vacation time or benefits are accrued. Participants are not terminated from the workplace unless they threaten the safety of staff or other participants. The therapeutic workplace does not hold participants to the same standards of performance, punctuality, attendance, interpersonal communication, and drug use as real-world employers. The aims of the therapeutic workplace are similar to vocational training programs and job readiness training offered by entities such as community colleges and One-Stop Career Centers (Miller et al., 2009). For example, the city of Baltimore collaborates with Baltimore City Community College to deliver basic computer skills training and a computer-based literacy and math curriculum to unemployed residents of Baltimore at city One-Stop Career Centers (Mayor's Office of Employment Development, 2010). One-Stop Career Centers across the United States have experienced problems in recruiting and maintaining engagement of participants, but early reports suggest that

incentives such as gift cards may enhance engagement (Miller et al., 2009). Future research could focus on incorporating features of the therapeutic workplace into such training programs in a more systematic fashion, for example, by providing incentives for attendance and progress in training programs. Such research could inform policy decisions at city or state levels for workforce development among drug misusers.

In terms of employment outcomes, important challenges remain for the therapeutic workplace in future studies. The first challenge is to make vocational training more relevant to skills needed in the job market. By focusing on training skills needed in the modern workforce in a wide array of jobs, we hope to boost the intervention's effectiveness to promote employment following discharge. To that end, we have recently offered participants to participate in remedial General Educational Development (GED) mathematics training and training in Microsoft applications, and provide incentives for progress in these computer-based training programs.

The second challenge is to improve participants' professional demeanor, or "soft" skills. This can be done by increasing the levels of vocational skills that can generalize to a large number of occupations. For example, computer skills and customer service skills are required for a large number of clerical and customer service jobs, which females, with a history of drug abuse, perceive to be appropriate and attainable professions following their discharge (Silverman, Chutuape, Svikis, Bigelow, & Stitzer, 1995). Alternatively, participants can be specifically trained for employment in professions for which there are high present and future demands and job growth, according to the Department of Labor, such as cosmetology, childcare, reception and information clerk services, secretarial work, general maintenance and repair work, cable and fiber optic installation, information technology, and food services (U.S. Department of Labor, 2009).

The success of future studies should be evaluated first and foremost in terms of drug misuse outcomes during training, and at discharge and follow-up assessments, as sustained abstinence is a necessary precursor of gainful employment.³ Success should also be evaluated in terms of participant employment outcomes at discharge and follow-up assessments.

It remains clear that far greater effort is needed to improve the job outlook of people recovering from drug misuse. Our participants have and experienced many barriers to employment, including their own criminal backgrounds and a lack of necessary and relevant education and skills. However, we have confidence from these data that this population will take advantage of employment opportunities. What is needed to boost employment outcomes may include more focused career and skills training with voucher incentives to promote engagement and retention, actively recruiting employers to hire people with a history of drug misuse, providing wage subsidies and/or trial employment periods, and insuring employees through government bonds against costs incurred by an employee with a history of drug misuse. More research on these factors certainly appears warranted.

³A range of licit and illicit substance users, misusers, and abstainers are gainfully employed, globally, at varying levels and types of quality and appropriateness. Among them are active substance users who also function as salaried peer change agents. A critical issue is examining the critical necessary conditions (endogenous as well as exogenous ones; micro to macro levels) for such employment to operate or not. Editor's note.

Biographies

Dr. Sigurdur Oli Sigurdsson received his doctorate in Behavior Analysis from Western Michigan University in 2006. He is currently an assistant professor of Psychology at the University of Maryland, Baltimore County. Dr. Sigurdsson has published research in the areas of occupational safety, traffic safety, and organizational behavior.

Dr. Anthony DeFulio came to the Center for Learning and Health as a post-doctoral fellow in 2007 after earning a Ph.D. in Psychology from the University of Florida, where he studied the experimental analysis of behavior. He currently serves as the associate director of the Center for Learning and Health.

Lauren Long is currently in her final semester as an undergraduate psychology student at the University of Maryland, Baltimore County. She works as an undergraduate research assistant at the University of Maryland, Baltimore County, and at the Center for Learning and Health at Johns Hopkins University, Bayview Campus.

Dr. Kenneth Silverman is a professor of Psychiatry and Behavioral Sciences at Johns Hopkins University School of Medicine. Dr. Silverman's research at Johns Hopkins has

been funded by grants from the National Institute on Drug Abuse and focuses on developing operant treatments to address the interrelated problems of poverty and drug addiction.

GLOSSARY

Community Employment	employment in community workplaces where participants must compete to obtain the employment
Employment Barrier	factors that may make it difficult to obtain community employment. These may include variables such as lack of interest in employment, low levels of education, vocational training, and/or general work-related skills (e.g., computer skills), limited access to resources like childcare and transportation, and deficits in social skills, such as acceptance of authority
Hard Skills	specific job skills that may be applicable to a number of jobs or professions (e.g., computer skills) or specific to a small set of jobs or professions (e.g., skills related to installing television cable service equipment)
Pre-employment Behaviors	behaviors related to securing employment. These may include identifying suitable job openings, creating a resume, and preparing for a job-interview
Soft Skills	a set of general interpersonal and social skills that translate to any employment setting. Examples include getting along well with coworkers, supervisors, and customers, attending work reliably and on time, and completing work in a timely manner
Therapeutic Workplace	an employment-based substance abuse treatment program that uses wages earned for working to reinforce abstinence. In the therapeutic workplace, participants are hired and paid to work but are required to provide objective evidence of recent drug abstinence to work and earn wages. There are two phases to the treatment, a training phase designed to initiate abstinence and teach necessary job skills and an employment phase in which participants are hired to perform real jobs. During the training phase, participants earn vouchers exchangeable for goods and services instead of cash to reduce the chance that they will use their earning to purchase drugs. During the employment phase, participants earn paychecks

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FIGURE 1.

Employment data from two clinical trials conducted at the therapeutic workplace. Height of bars indicates average levels, and open circles indicate individual participant values.

TABLE 1Demographic characteristics of participants ($N = 99$)

Demographic variable	N^*	M	SD
Age	99	43.79	7.12
Education completed (years)	99	11.41	1.51
Duration of longest job (years)	97	6.01	5.37
Technical education/training (months)	44	12.82	10.64
Incarceration (months)	55	25.54	33.47

* N represents the number of participants who reported any education, employment, education/training, or incarceration.

TABLE 2Type of last full-time position held by participants based on the Hollingshead job taxonomy ($N = 99$)

Job category	<i>N</i>	%
Higher executive	1	1.0
Administrative personnel	9	9.1
Clerical and sales	3	3.0
Skilled manual	10	10.1
Semi-skilled	61	61.6
Unskilled	14	14.1
Student, disabled, or no occupation	1	1.0

TABLE 3Employment patterns for participants in the 3 years prior to intake ($N = 99$)

Employment pattern	<i>N</i>	%
Unemployed	61	61.2
Full time (35 hr or more)	17	17.2
Retired/disability	8	8.1
Part time, irregular hours	9	9.1
Part time, regular hours	4	4