Does being in sheltered workshops improve the employment outcomes of supported employees with intellectual disabilities?

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Abstract. This study examined the vocational outcomes of two cohorts of supported employees – 4,904 supported employees who participated in sheltered workshops and 4,904 supported employees that didn't participate in sheltered workshops. Individuals in these groups were matched based up their diagnosis, the presence of secondary conditions, and their gender. It was found that supported employees from the non-sheltered workshop group were just as likely to be employed as supported employees from sheltered workshops (60.4% versus 59.6%). Further, non-sheltered workshop supported employees earned significantly more (\$137.20 versus \$118.55 per week), worked more hours (24.78 versus 22.44), and cost less to serve (\$4,542.65 versus \$7,894.63).

Keywords: Sheltered workshops, supported employment, value added

1. Introduction

For many years, there has been considerable tension between advocates of sheltered workshops and supported employment. One of the sources of this tension is that these programs often compete for the same state and federal funding [5, 8, 36, 39]. But there are also substantial philosophical rifts between the two camps regarding the definition of work, the value of integration, and whether all people with disabilities can work competitively within their communities [7, 12, 16, 24, 26, 27, 31, 37, 42].

One of the main tenets often cited by supporters of sheltered workshops is that center-based programs "prepare" people with disabilities for working in their communities [35, 38, 44, 45]. That is, according to these authors, participating in sheltered workshops teaches individuals with disabilities critical vocational skills that they typically lack. Further, individuals need

these skills *prior to* being placed in competitive positions. The underlying assumption to these assertions is that being in sheltered workshops gives participants something (e.g., vocational skills, increased physical endurance, an emotional aptitude required for gainful employment) that will help them obtain and maintain employment.

Despite the long-term feud between facility-based and supported employment programs, very little attention has been given to how effectively sheltered workshops prepare individuals with intellectual disabilities for supported employment. Most studies have focus on the fact that few workers ever become competitively employed once they enter center-based programs [3, 6]. Or that the costs of sheltered workshops exceed the costs of supported employment [9, 21, 23]. Or that supported employees have higher self-esteem and better quality of life than sheltered employees [17, 20, 22]. Or that individuals with disabilities and their fam-

ilies prefer supported employment over center-based programs [13, 28]. Perhaps the topic that has received the most attention involves how sheltered workshops should be converted into more integrated employment options [1, 2, 4, 14, 15, 18, 29, 30, 33, 43].

This study, however, examines the premise that sheltered workshops are "value added" programs. That is, that they improve the outcomes accomplished by individuals who later become supported employees. To investigate this issue, the outcomes achieved by two groups of supported employees were compared. The first group included 4,904 supported employees with intellectual disabilities who participated in sheltered workshops prior to becoming supported employees. The second group included 4,904 supported employees with intellectual disabilities who did not participate in sheltered workshops prior to becoming supported employees. Persons from each group were matched together based upon their diagnosis, their secondary diagnoses (if they had one), and their gender. Outcomes that were examined included: (a) the rates of competitive employment, (b) the number of hours worked in the community per week, (c) the gross wages earned, and (d) the cost of services that each individual received. The hypothesis being tested was that former participants of sheltered workshops benefited from being in center-based programs. Specifically, this study sought to determine whether individuals who participated in sheltered workshops prior to becoming supported employees would be employed at higher rates, work more hours in the community, earn more wages, and be easier to train (i.e., thus producing a lower cost of services received) than supported employees with the same disabilities and gender who did not participate in sheltered workshops.

2. Methods

2.1. Data source

The source of data for the present study comes from the Rehabilitation Services Administration's 911-database. Data were entered into the database by specifically trained rehabilitation counselors who worked in state-operated Vocational Rehabilitation programs. Data included, but was not limited to: the vocational outcomes achieved by applicants for vocational rehabilitation services, the individual's demographics (e.g., age, gender, ethnicity, disabilities), and the services that each person received. After

being entered into the computerized database, data were cross-checked by two computer programs that identify potential errors and discrepancies [34].

2.2. Participants

From 2002 to 2006, 3,182,126 people had their cases officially closed by vocational rehabilitation counselors; 192,756 of whom had a vocational goal of supported employment on their Individual Plan for Employment (IPE). These included persons funded by both Title 1 and Title VI-B sources. Of these 192,756 supported employees, 87,349 had a diagnosis of "mental retardation." Of these 87,349 supported employees with intellectual disabilities, 4,904 (5.6%) were being served in sheltered workshops at the time they applied to Vocational Rehabilitation.

A random sample of 4,904 was then selected from the 82,445 supported employees with intellectual disabilities who were not served in center-based programs at the time they applied for services through Vocational Rehabilitation. Individuals from the non-sheltered workshop population were selected based upon their ability to match the 4,904 supported employees who received services in sheltered workshops on the following variables: (a) disability (i.e. "mental retardation"), (b) secondary disability, if present, and (c) gender. These matching criteria were selected because previous studies have documented that diagnosis, the presence of secondary disabilities, and gender impact rates of employment, wages that earned, and cost of services obtained [10, 11]. The demographics of these two cohorts can be found in Table 1.

2.3. Variables

2.3.1. Employed versus unemployed

When a person's case was officially closed, vocational rehabilitation counselors documented the reason for its closure. One coding option available was "exited with an employment outcome" (i.e., competitively employed in an integrated setting making at or above minimum wage). If this code was utilized, the individual was said to be employed. If any other code was indicated (e.g., "exited without an employment outcome"), the person was considered to be "unemployed."

2.3.2. Wages earned and hours worked

If a person's case was closed due to an employment outcome being obtained, vocational rehabilitation

Table 1
Demographics of Supported Employees with and without
Experience in Sheltered Workshops

	Sheltered Workshops	Not in Sheltered Workshops
Sample Size	4,904	4,904
Average Age	38.93 years	31.56 years
Percent Female	41.7%	41.7%
Percent Male	58.3%	58.3%
Had a Secondary Disability	49.6%	49.6%
Ethnicity		
White	78.3%	71.5%
African American	14.2%	23.6%
Native American	1.1%	0.9%
Asian	1.8%	2.0%
Pacific Islander	0.6%	0.5%
Hispanic	10.8%	8.6%
Source of Referral to VR		
Educational Institution (Secondary)	2.0	23.6
Educational Institution (Post-Secondary)	0.3	1.0
Medical Personnel	5.5	7.4
Welfare Agency	2.4	2.4
Community Rehabilitation Program	58.6	24.4
Social Security Administration	0.2	0.5
One-Stop Employment/Training Center	0.6	1.0
Self-Referral	4.3	13.7
Other Sources	26.2	26.1

counselors documented the participant's weekly wages earned and hours worked. Wages earned were gross wages, prior to any taxes or deductions being withheld.

2.3.3. Cost of services received

In addition to wages earned and hours worked, vocational rehabilitation counselors also documented the services that each person received and the cost that VR contracted to have these services provided. Cost of services provided, therefore, include only services that were not furnished directly by the vocational rehabilitation counselor (e.g., job development, initial training, etc.).

2.4. Research questions

This study sought to determine whether participating in sheltered workshops improves the outcomes achieved by supported employees with intellectual disabilities. Specific outcomes investigated included: (a) rates of employment, (b) wages earned in the community, (c) hours worked in the community, and (d) cost of services received. Costs per services received were examined in relation to both cohorts as a whole (i.e., the 4,904 individuals in each cohort) as well as for those individuals in both cohorts who became successfully employed.

3. Results

3.1. Question 1: Does Participating in Sheltered Workshops Increase Rates of Employment?

As indicated in Table 2, 59.6% of supported employees who participated in sheltered workshops were employed when their cases were officially closed. This is compared to 60.4% for the matched supported employees with the same diagnoses and gender who did not participate in center-based programs. This difference was not statistically significant.

3.2. Question 2: Does Participating in Sheltered Workshops Increase Wages Earned in the Community?

The 2,923 (i.e., 59.6%) supported employees from the sheltered workshop cohort who obtained competitive positions within the community earned an average of \$118.55 (SD = \$74.56) per week. Their matched pairs from the non-sheltered workshop cohort earned an average of \$137.20 (SD = \$82.29) per week. Using

Table 2
Vocational Outcomes Achieved by Supported Employees with and without Experience in Sheltered Workshops

	Was In Sheltered Workshops	Was Not In Sheltered Workshops
Sample Size	4,904	4,904
Percent Employed	59.6%	60.4%
Weekly Earnings*	\$118.55 (\$74.56)	\$137.20 (\$82.29)
Hours Worked**	22.44 (10.71)	24.78 (10.06)
Cost of Services (entire sample)***	\$7,894.63 (\$11,643.03)	\$4,542.65 (\$6,141.63)
Cost of Services (for employed)****	\$8,659.44 (\$10,895.56)	\$5,399.26 (\$5,847.08)

Note: Standard deviations presented in parentheses.; *t = 8.96; p < .001; **t = 2.76; p = .006; ***t = 17.69; p < .001; ****t = 14.18; p < .001.

a two-tailed t-test for paired samples, this difference was found to be statistically significant (t=8.96; p<.001).

3.3. Question 3: Does Participating in Sheltered Workshops Increase Hours Worked in the Community?

As can also be seen in Table 2, supported employees with intellectual disabilities who participated in sheltered workshops worked an average of 22.44 hours (SD=10.71 hours) per week in the community. In contrast, supported employees who did not participate in sheltered workshops worked an average of 24.78 hours (SD=10.06). Using a two-tailed t-test for paired samples, this difference was found to be statistically significant (t=2.76; p=.006).

3.4. Question 4: Does Participating in Sheltered Workshops Decrease the Cost of Services Received?

Finally, when examined as entire groups, it was found that supported employees who participated in sheltered workshops received services costing Vocational Rehabilitation an average of \$7,894.63 (SD = \$11,643.03). This is compared to \$4,542.65 (SD = \$6,141.63) for the non-sheltered employment cohort. Using a two-tailed t-test for paired samples, this difference was statistically significant (t = 17.69; p < .001).

When only examining individuals who became employed, it was found that supported employees from the sheltered workshop cohort received services costing Vocational Rehabilitation an average of \$8,659.44 (SD = \$10.895.56). This is compared to \$5,399.26 (SD = \$5,847.08) for the non-sheltered employment cohort. As when analyzing both entire groups, this difference was statistically significant (t = 14.18; p < .001).

4. Discussion

Over the past forty years, there has been a great deal written about the professional chasm that separates supported and sheltered employment. Much of this literature has focused upon the philosophical differences that these programs have as well as how to convert facility-based programs into programs that are integrated within the community [7, 12, 16, 24, 27, 31, 37, 42, 43]. To date, very little attention has been focused

upon the benefits of being in center-based programs prior to entering supported employment.

To this end, the present study compared the vocational outcomes achieved by 4,904 supported employees with intellectual disabilities who were in sheltered workshops prior to entering supported employment and 4,904 supported employees with intellectual disabilities who were not in sheltered workshops prior to entering supported employment. Participants from these two cohorts were matched based upon their diagnosis, secondary disabilities (if present), and gender. Outcomes explored included rates of employment, wages earned, hours worked in the community, and the cost of services these individuals received. The hypotheses being tested were that supported employees who participated in sheltered workshops would have higher rates of employment, earn more wages, work more hours, and cost less to serve in the community than supported employees with the same disabilities who did not participate in sheltered workshops. In doing so, this study found several significant findings relevant to policymakers, practitioners, and workers with disabilities.

The first prominent finding was that there was no difference in the rates of employment for these two groups. More precisely, 59.6% of sheltered workshop supported employees were competitively employed in the community when their cases were officially closed by their vocational rehabilitation counselors. This is compared to 60.4% for individuals who did not participate in sheltered workshops prior to entering supported employment.

This, in and of itself, refutes the hypothesis that sheltered workshops teach individuals with intellectual disabilities skills that would make them more employable within the community. Had sheltered workshops taught skills that job seekers require in order to become competitively employed, the individuals in the sheltered workshop cohort would have had a higher rate of employment than individuals who were never "prepared" in center-based programs. However, data presented here clearly indicated that there isn't a difference in rates of employment.

The second finding identified here was that supported employees who participated in sheltered workshops earned significantly *less* than supported employees from the non-sheltered workshop cohort (\$118.55 versus \$137.20 per week, respectively) (t = 8.96; p < .001). They also worked *fewer* hours in the community (22.44 versus 24.78 hours per week, respectively) (t = 2.76; p = .006). In other words, this study found that in

addition to not increase employability, participating in sheltered workshop actually seemed to impede the number of hours worked and wages earned by supported employees.

Unfortunately, neither group of supported employees earned enough to keep them out of poverty. Supported employees from sheltered workshops earned roughly \$5.44 per hour for an average projected annual gross income of \$5,690. Supported employees not from sheltered workshops didn't fare much better. They earned only \$5.83 per hour for an average projected annual gross income of \$6,586 – well below the \$10,400 needed for an individual to be considered above the poverty threshold in the 48 contiguous United States [41]. As has been discussed elsewhere, much more needs to be done to ensure that supported employees can obtain livable wages [cf. 25, 40].

Finally, this study found that supported employees who participated in sheltered workshops cost substantially *more* to serve in the community than supported employees who hadn't participated in sheltered workshops. Specifically, when examined as an entire group, sheltered-workshop supported employees received services costing vocational rehabilitation an average of \$7,895 (SD = \$11,463). Non-sheltered workshop supported employees, on the other hand, received services costing vocational rehabilitation an average of \$4,543 (SD = \$6,142) (t = 17.69; p < .001). When examining only supported employees who became employed, the sheltered workshop cohort was 60.4% more costly to serve (\$8,659 versus \$5,399, respectively) (t = 14.18; p < .001).

In other words, while what individuals learned in sheltered workshops didn't improve their employability, it did appear to make them more costly to train. It may be that individuals with intellectual disabilities learned behaviors and skills that had to be "unlearned" once they were placed in the community, thus increasing the amount of time job coaches spent with them on-the-job. It could also be that participating in sheltered workshops created a sense of dependency that supported employees found difficult to overcome. Such findings have been found by other authors [cf. 32].

Whatever the explanation, there was a substantial cost differential between these two cohorts. If policy-makers wish to reduce the per capita cost of supported employment, one option is not to have supported employees participate in sheltered workshops beforehand. Not only would taxpayers actualize a \$3,260 per person reduction in the costs of training successfully employed supported employees, but they would also

forgo the costs of funding sheltered workshops which have been found to exceed those of supported employment [9, 23].

A noteworthy ancillary finding of the present study was that supported employees who did not participate in sheltered workshops were far more likely to be referred to vocational rehabilitation by their secondary schools. Specifically, 23.6% of this cohort was referred by high school personnel. This is compared to only 2.0% of the sheltered workshop cohort. Supported employees from the sheltered workshop cohort were more likely to be referred to vocational rehabilitation by community rehabilitation programs (58.6% versus 24.4%, respectively). Thus, it would seem that the best way for individuals to find their way to supported employment and be successfully employed is to build linkages between high schools and vocational rehabilitation. Other authors have discussed this notion at length [cf. 19].

It should be noted that this study only examined the impact that participating in facility-based program had on individuals with intellectual disabilities. It may be that people with other diagnoses (e.g., sensory impairment, mental illnesses, or physical disabilities) may produce different outcomes. Additional studies will need to explore the merits of sheltered workshops for these populations.

Further, although the samples examined here were matched based upon their diagnoses, the presence of secondary conditions, and gender, it may be that these cohorts were not identical and that other demographic variables may have caused the results described here. For instance, participants in the sheltered workshop cohort were on average 7.37 years older than participants in the non-sheltered workshop cohort (i.e., 38.93 versus 31.56 years, respectively). Moreover, there is no guarantee that individuals in one cohort had the same severity of cognitive disabilities as individuals in the other cohort. Such differences may explain the findings presented here. Future research will need to determine whether the age of individuals and other variables influences the outcomes achieved by supported employees who participated in sheltered workshops.

Finally, this study did not explore all of the potential merits of these programs. For instance, level of happiness and employment satisfaction were not investigated here. So it may have been that while supported employees who did not participated in sheltered workshops earned more, worked more, and cost less to serve in the community, they might have been happier had they been in center-based programs. However, given the research

conducted by others, this is doubtful [17, 20]. Still, it is important to note that participation in programs should be based upon the needs and wishes of each individual, not the statistically significant outcomes of a research study.

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