



THE NUMBERS

We developed the Self-Directed Employment (SDE) Program to demonstrate that workers with disabilities, who have the right to control their own job choices, would benefit from a program that empowered that right. SDE demonstrated that workers with disabilities would be more likely to achieve success when provided with jobs that matched their interests and skills and when they learned to regulate their adjustment to meet on-the-job demands. SDE focused on placing individuals in community-based integrated jobs.

This chapter briefly reviews the basic SDE assessment and placement procedures. It also presents data on the initial group of individuals who participated in the SDE program. Finally, it reviews summative program data and presents cost data.

PROCEDURAL OVERVIEW

SDE consisted of three consecutive phases: assessment, placement, and follow-along. First,

over a 6 to 12 week period, SDE provided individuals with the opportunity to complete a repeated-measures, community-based, situational assessment. Second, SDE worked with individuals to secure a job that matched their interests, skills, and limits, and provided opportunities for workers to learn on-the-job problem-solving skills. Third, SDE provided long-term follow-up services, which focused on job adjustment and career advancement. SDE procedures enabled individuals to systematically think about and then answer critical questions. Central to this decision-making process were repeated community-based assessments that presented discrepancy problems to the individual.

Discrepancy Problems

SDE choice and work adjustment situations created discrepancy problems that workers had to solve. In assessment, these problems arose when chosen job, task, and characteristic interests did not match specific jobs. In placement, the discrepancy occurred when workers' self-evaluation

of their performance did not match the supervisors' written evaluations. Discrepancies diminished when the person worked at a jobsite that matched expressed interests or when self-evaluations of performance matched the supervisor's evaluations. Logical choice making happened when chosen preferences matched the task and characteristics at available jobs. Likewise, systematic feedback, the reactive effect of self-monitoring, or the use of other problem-solving strategies produced workers' self-evaluations that matched those from the supervisor.

Assessment: Choice Management

SDE's structure enabled the individuals to answer specific questions across four curriculum goals: 1) making choices, 2) exploring choices, 3) testing choices, and 4) final choices. The assessment procedures identified the workers' strengths, skills, and preferences and depicted how these matched available jobs. Through a series of community-based experiences, each person narrowed his or her choices to two available jobs that matched stated preferences.

Through this process, individuals with disabilities thought about and made their own decisions by using a series of written or illustrated forms. For instance, prior to visiting a community jobsite, a person would identify preferred job characteristics by circling words or illustrations describing the characteristics. After visiting the jobsite, each person would compare the characteristics from the site to previously expressed interests. If the stated preferences existed at the site, a match existed; if not, the discrepancy indicated the lack of a logical match. This process was repeated across numerous sites until at least two consistent matches were obtained.

Placement and Follow-Along: Self-Management

SDE provided support and opportunities for individuals with disabilities to find a job that would match skills and preferences and to solve on-the-job problems. Using assessment information, SDE staff and the individual jointly developed jobs.

Job Match Once a person began a job, the position was not considered a match until many of the assessment procedures again determined across time that this specific position still

matched the person's interests, skills, and limits. We repeated the assessment process at placement sites because many environmental differences exist from one jobsite to another, which helped to ensure a positive match.

Job Training At many sites, co-workers provided job training. In difficult situations, employment specialists or peer job coaches would at times enter the sites to facilitate skill development. Across all situations, and often completed off-site, employment specialists would teach the workers self-management strategies, such as self-instructions, to use with typical self-evaluation feedback methods. SDE employment specialists did not perform the work for the individual because each person needed to assume the responsibilities associated with each position.

Solving On-the-Job Problems Once a worker learned what to do at a jobsite, the next step focused on fluency, maintenance of learned skills, and adjustment to changing job demands. As the worker approached mastery of the required job duties, this phase of the SDE procedures began. Based on supervisor feedback from the previous day, the worker established a short-term plan to solve identified problems, and then he or she implemented the plan, evaluated progress, compared self-evaluations to the supervisor's evaluations, stated any needed adjustments, and repeated the entire process the next day. Workers used various improvement contracts and strategies to facilitate this problem-solving process.

Follow-Along Once a worker's case was closed by the Colorado Division of Vocational Rehabilitation, SDE supplied on-going follow-up support. Unfortunately, some of the individuals did not have a source of long-term funding because they were on waiting lists or lacked long-term funding for their particular disabilities. For these workers without long-term financial support, SDE provided subsidized private-pay follow-along services, which the workers paid out of earnings directly to the SDE program.

Those involved in follow-along often continued to use their improvement contracts, although less frequently than before. Twice per year, workers used a change plan to compare what they wanted at a jobsite to their current situation. If discrepancies existed, the person developed and implemented a plan to remove the dis-

crepancies. This plan targeted, for instance, getting a different job, securing a promotion, or asking for a pay increase.

PROGRAM ACCOMPLISHMENTS

Eleven years of accumulated information strongly suggest that long-term success was not related to disability categories but rather to factors such as a successful job match or a worker's commitment to regularly use his or her acquired on-the-job problem-solving skills. The data indicate that the percentage of workers who became successfully employed was significantly greater when they completed the SDE assessment process. More than 93% of the placements matched a person's first or second job choices. In a few cases, other factors, such as guardian opposition to a particular job or travel concerns, forced the person to take a job outside of his or her chosen line of work. According to data provided us by Colorado Rehabilitation officials, most Colorado programs typically averaged a 60%–65% successful supported employment closure rate. In contrast, the Colorado Springs Rehabilitation Office successfully closed 60%–73% of its referrals to the SDE program. Given these numbers, the self-directed methodology used by SDE was at least as effective and often more so than the staff-directed approach practiced by most Colorado programs.

JUMP START: THE BEGINNING

Prior to 1988, Colorado Springs did not have a supported employment program, and many employment providers questioned the viability of community-based employment options. A partnership between the Colorado Springs's Office of the Colorado Division of Rehabilitation, the local developmental disabilities funding board, and the Special Education Program at the University of Colorado at Colorado Springs (UCCS) was formed to jump start the city-wide development and use of supported employment methodologies. Together, we created a state-approved employment agency at UCCS, and individuals with mental retardation from three sheltered workshops had the opportunity to participate in this new program.

Fifty-eight names were chosen using a randomly selected, stratified design, in which the level of mental retardation served as the defining variable. The list of participants and their levels of mental retardation matched the proportion of the levels of mental retardation served by each workshop. If a person declined to participate, someone else was selected from the pool whose level of mental retardation closely matched the person he or she was replacing. The end result was a group of individuals who wanted a community job and whose level of mental retardation closely matched the profile of who was served by the sheltered workshops.

Results

From October 1988 to April 1990, 61% of the initial Jump Start workers became employed at a community job and 19% were involved in job development activities (most looking for second or third jobs). The remainder left Jump Start for a variety of reasons:

- Some families did not want their adult sons or daughters working outside of a sheltered workshop.
- Some individuals had poor attendance or on-the-job behavior problems and were fired.
- Some individuals wanted to return to sheltered workshops.
- A few individuals moved to other cities.
- Illness caused removal of some from the program.

We interviewed those still working and asked them, "What has changed in your life as a result of your job?" We were able to group many of their responses into categories, but a few responses were unique and stood alone. Listed in decreasing frequency, individuals said they:

- Were not bored at work anymore
- Could get out into the community
- Had more friends
- Had more money
- Felt more like human beings
- Could buy things for themselves
- Had money now to go on trips, buy new clothes, visit relatives, and so forth

Parents were asked, “What has changed in your child’s life as a result of the job?” Most parents had many positive comments to make, which also clustered around similar themes. Listed by decreasing frequency, parents said that their adult son or daughter:

- Learned responsibility, punctuality, and diligence
- Learned to interact with a variety of people
- Was being seen now as normal and more ordinary rather than disabled
- Made a positive move in leaving sheltered workshop
- Became more outgoing and confident
- Was not lonely anymore
- Handled more responsibility
- Became more aware of others in his or her surroundings

SUMMATIVE DATA

When the Jump Start group started returning to their original program for long-term follow-up, SDE began serving individuals with severe vocational disabilities on a direct referral basis from the Colorado Division of Vocational Rehabilitation. As these individuals became successful workers, SDE started providing long-term follow-along services. Periodically during the next 9 years, we evaluated SDE’s results. This section presents the results of these analyses—snapshots of the program at different points in time.

PROFILE OF THOSE SERVED

SDE provided self-determined oriented services for 751 individuals with disabilities between October 1988 and November 1999. During these 11 years, the program strove to demonstrate the viability of self-determination practices across a range of individual needs and across different disability categories¹. We accomplished this out-

come with the same funding that the Colorado Division of Vocational Rehabilitation, Colorado Division of Developmental Disabilities, and other funding sources paid similar Colorado community metro-area agencies. We closed SDE 11 years after it began due to funding cuts caused in part by statewide tax limitation constraints.

The chart in Figure 11.1 shows, by percentage of the total number, the distribution across different disability labels. The numbers show that among program participants

- 234 people had mental retardation
- 145 people had chronic mental illness
- 113 people had a severe learning disability
- 102 people had physical disabilities
- 96 people had other types of primary disabilities, including autism,
- 61 people had traumatic brain injury

Often individuals who entered the program had different diagnoses at different times in their lives, or they had multiple diagnoses, such as mental retardation and mental illness, when they began the program. We tracked the disability classification in their files at the time they started SDE. Altogether, approximately 53% of the individuals had one diagnosis, 44% had two, and the remainder had three or more diagnoses.

We wanted to demonstrate the utility of the SDE procedures across a wide range of disabilities and make supported employment opportunities available to more people. In comparison to national data, SDE provided services to a broader group of individuals than typically served in supported employment programs (Kregel & Wehman, 1997). Most national programs provided supported employment services primarily to individuals with mental retardation (70% compared with SDE’s 32%). SDE made community employment opportunities available to those with physical disabilities, traumatic brain injuries, and severe learning disabilities to a much greater percentage than other programs across the country (Table 11.1).

¹A grant from the National Institute on Disability and Rehabilitation Research enabled us to initially develop many of the procedures that we then refined during the next several years.

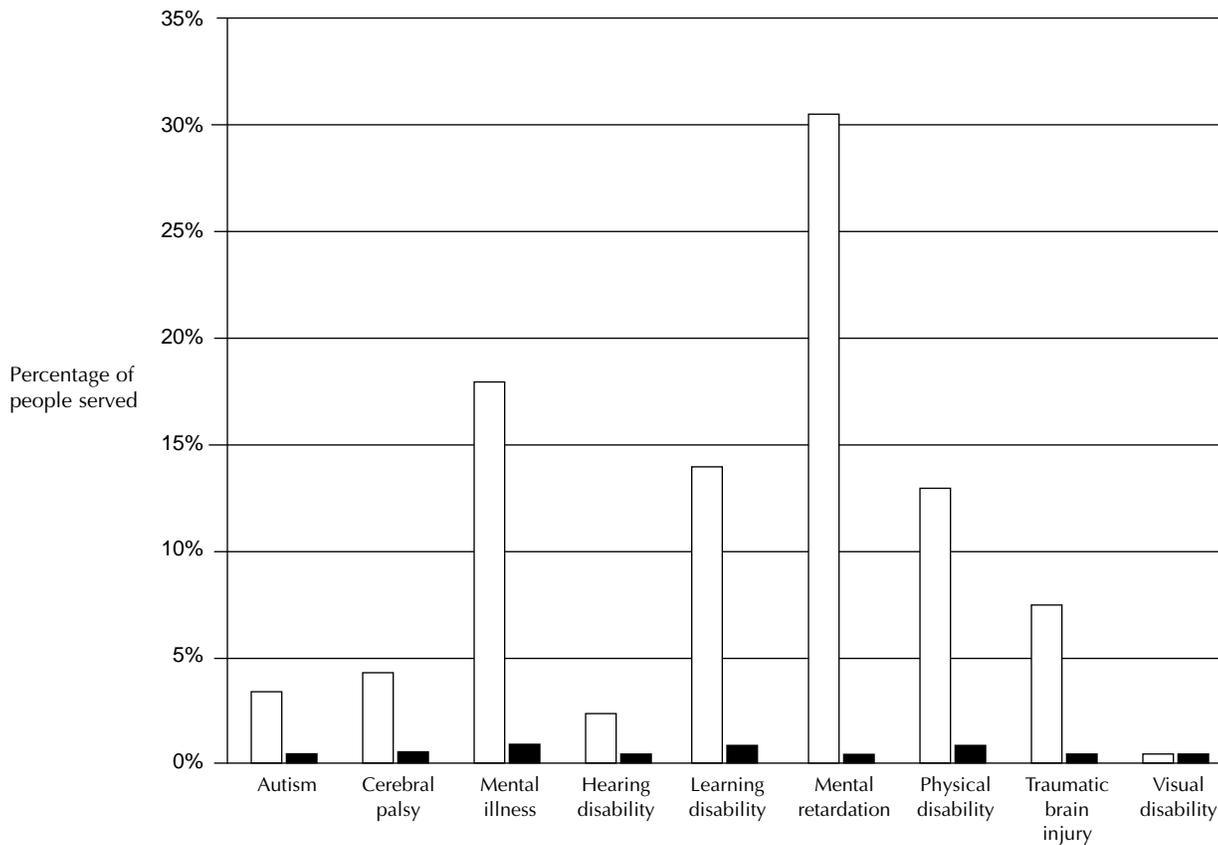


Figure 11.1. Primary and secondary diagnoses of participants in the Self-Directed Employment Program (N = 751). (Key: □ Primary diagnosis; ■ Secondary diagnosis)

Age When Started SDE

Individuals came into SDE primarily through referrals from the Colorado Division of Vocational Rehabilitation at two different life stages (see Figure 11.2). About 23% of the individuals entered SDE while involved in their high school transition program. Most (73%) of the individuals came into SDE in early or middle adulthood. Only about 4% entered after age 50.

Within the age range of 22–35, more males than females entered SDE. This profile was reversed in the next age group; more females than males began the program between the ages of 36 and 50.

Completing Assessment and Successful Closures

About 70% of individuals who entered SDE completed the assessment process; the other 30%

Table 11.1. Diagnoses of participants in the Self-Directed Employment Program, compared with diagnoses of participants in other programs

Diagnosis	Percentages of SDE participants	National average percentages of participants in other programs (Kregel & Wehman, 1997)
Mental retardation	32	70
Mental illness	20	19
Physical disability	15	2
Traumatic brain injury	9	2
Severe learning disabilities	15	0
Other or undisclosed	3	7

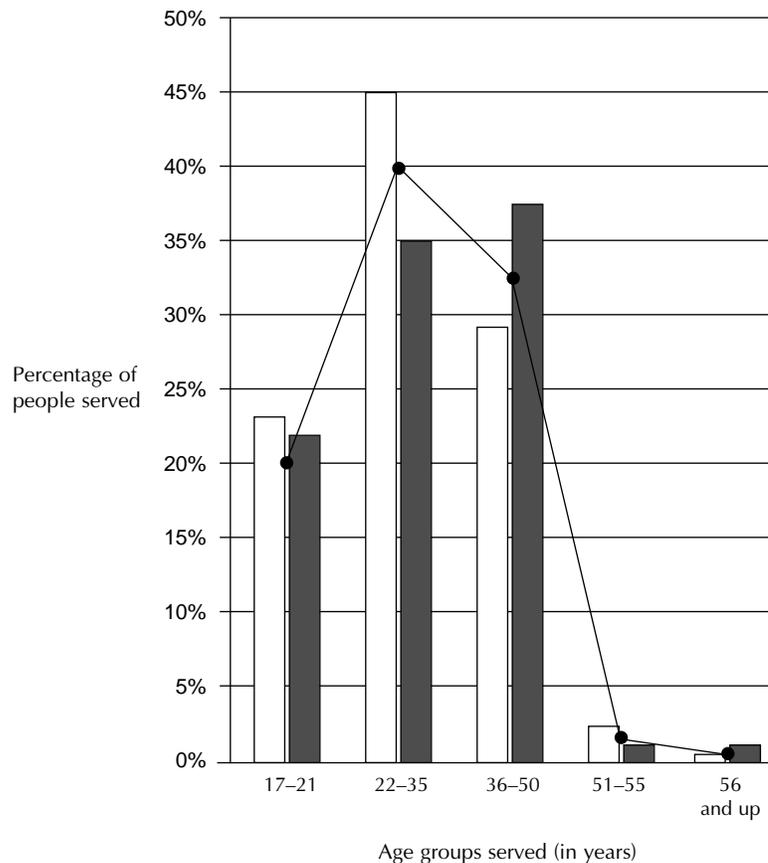


Figure 11.2. Age groups of people referred to the Self-Directed Employment Program by the Colorado Division of Vocational Rehabilitation ($N = 652$). (Key: □ Percentage of men; ■ Percentage of women; ● Percentage of total)

did not begin or finish the assessment process. Those who completed assessment had a significantly greater chance (Chi square $p < .05$) of successfully closing their case with the Colorado Division of Rehabilitation than those who did not finish or begin the assessment process (Martin, Mithaug, Husch, Frazier, & Huber Marshall, 2002). About 69% of participants who finished assessment were successful, compared with 31% of participants who did not finish assessment and were successful.

Number of Jobs Before Closure

Of those successful, about 92% of the individuals closed their case with the Colorado Division of Vocational Rehabilitation within two job placements. Most (about 75%) reached this success benchmark after only one placement. Another 20% of cases were successfully closed after the second job. The remaining obtained a

successful closure after three, four, or five placements (see Figure 11.3). Males and females experienced similar success rates. The number of jobs before closure varied somewhat by disability category.

Number of Jobs Before Closure by Disability Across disability categories, most of the closures came with the first job placement. This varied from 58% of workers with traumatic brain injury to 79% of workers with chronic mental illness (see Figure 11.4). A significant difference existed between the percentage of closures that came with the first job compared to the second (Chi square $p < .01$), indicating that many more closures were obtained with the first job than with the second.

When Closures Occurred

The Colorado Division of Vocational Rehabilitation closed unsuccessful cases during both

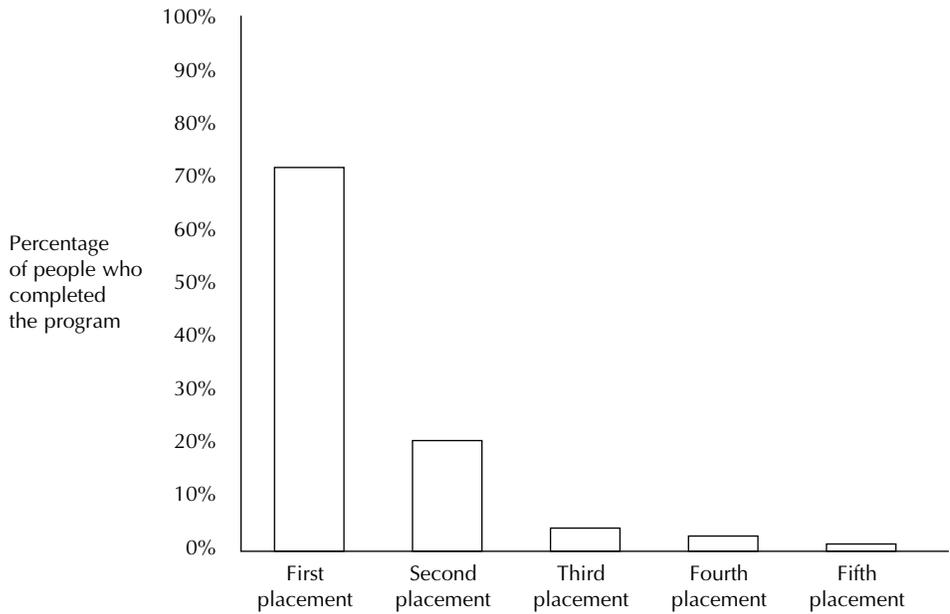


Figure 11.3. Number of placements required before successful closure for participants in the Self-Directed Employment Program.

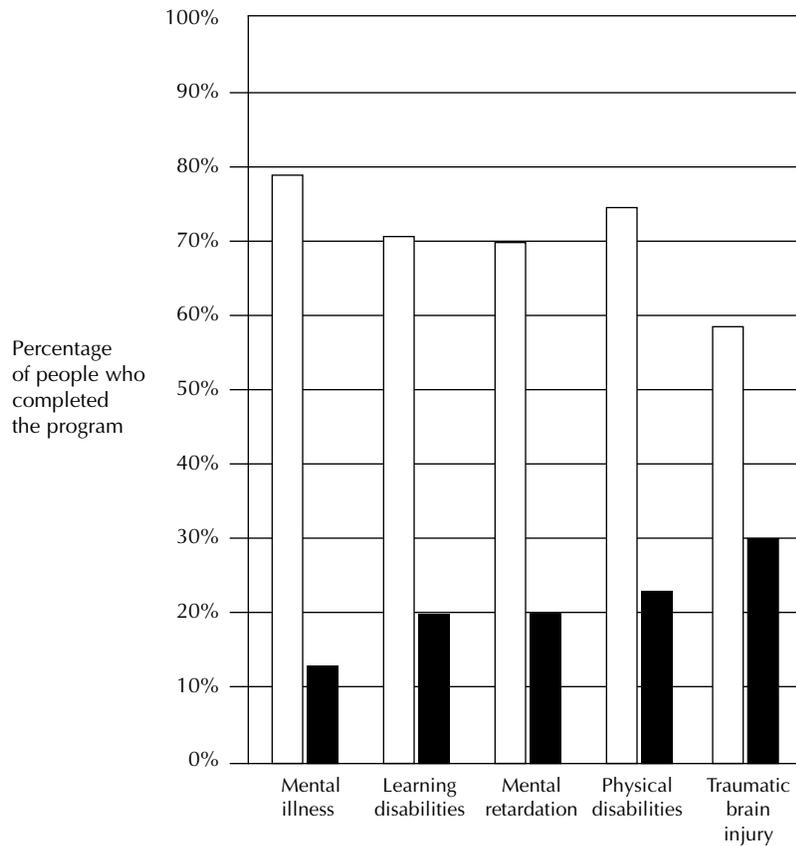


Figure 11.4. Percentages of closures across disabilities. (Key: □ First job; ■ Second job)

assessment and placement phases. Data from the first 9 of the 11 years SDE operated indicated that almost 20% of the closures happened during assessment. Of these, 13% of the closures during assessment were successful, and 87% were unsuccessful. The majority of those in the unsuccessful group simply stopped coming to the assessment program or meeting with their vocational rehabilitation counselors. Almost all the workers who successfully closed during assessment obtained a job at one of their assessment sites.

Time Employed at the Job

A 5-year cumulative SDE analysis showed that 3 months after placement, 88% of the individuals were still working, 55% were at the same job, 33% were at a different job, and 12% were no longer employed. Two years after placement, 12% of the individuals still worked at their first job, 39% worked at subsequent jobs, and the remainder were no longer employed. Kregel and colleagues (1990), in their analysis of supported employment data in Virginia, indicated similar percentages 3 and 24 months after placement (see

Figure 11.5). In Virginia, however, more workers stayed at their first job and fewer worked at subsequent jobs.

Number of Work and Support Hours

Seven and a half years of data indicate that after 2 months on-the-job, workers clocked between 90 and 105 hours per month, with an average schedule of 95 hours per month. The number of SDE staff support hours averaged 32 hours the first month, 21 the second, 16 the third, and decreased to 13 by the fifth month. During months 6 through 18, staff typically provided about 7 hours of support. This level remained fairly stable until about the sixth year, when the number of work hours increased and the service hours doubled. When work hours decreased, the service hours returned to their previous levels.

Support Ratio Kregel and colleagues (1990) indicated in a study of a large group of workers with mental retardation that for the first 12 months of employment, an average of 175 support hours were provided for each worker with mental retardation. Figures 11.6 and 11.7 depict an extension of this analysis for another 6 years. The

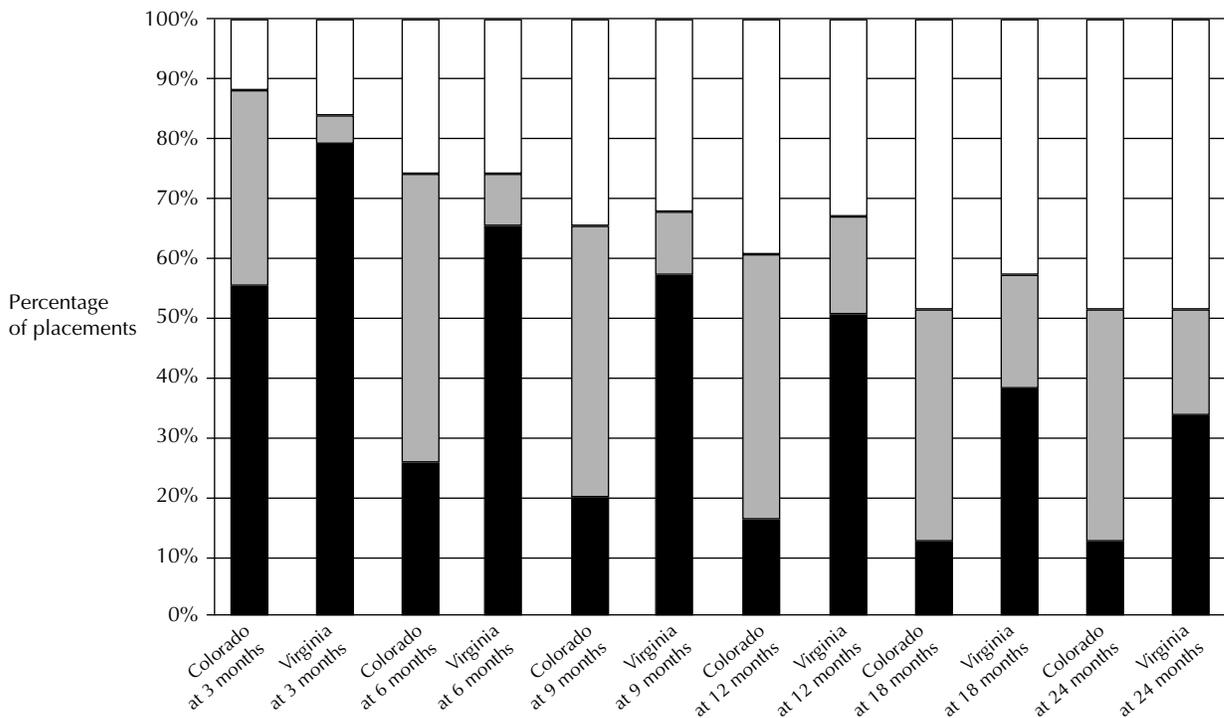


Figure 11.5. Job status of participants in the Self-Directed Employment Program in Colorado and Virginia over a period of 2 years. (Key: ■ Still at first job; ■ Employed at a subsequent job; □ No longer employed)

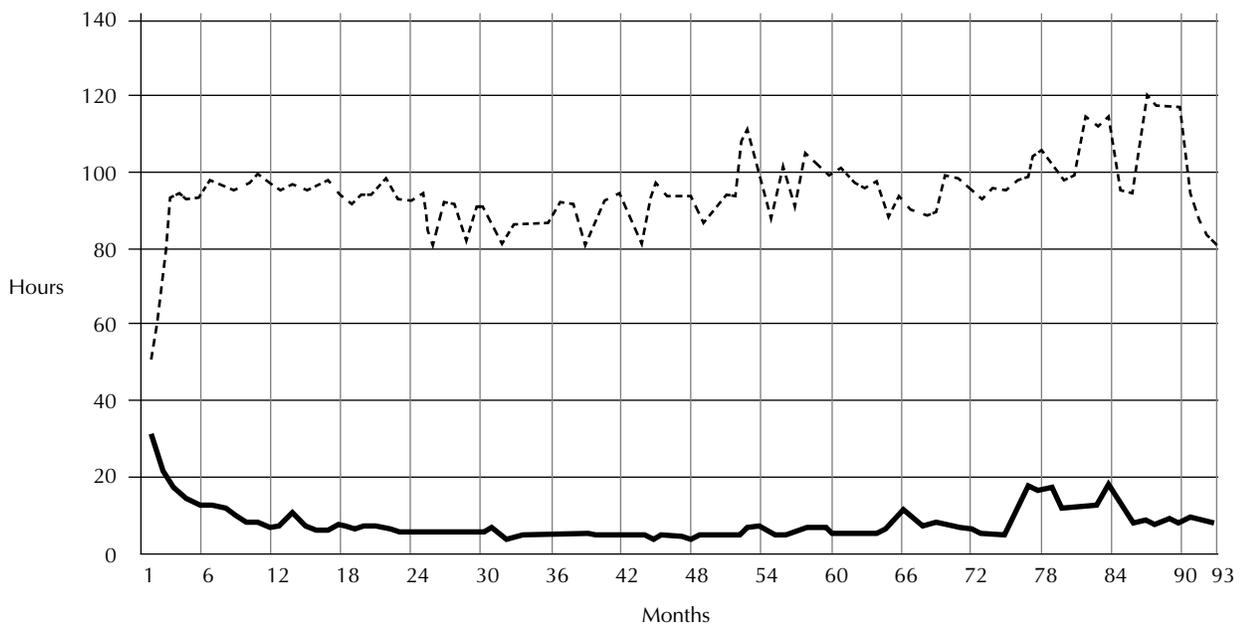


Figure 11.6. Average number of work hours compared with average number of support hours for workers with mental retardation over a period of 93 months. (Key: - - - - - Work hours; ——— Support hours)

support ratio is calculated by dividing the number of support hours by the number of hours worked. The service ratio stabilized for a period of 5 years

after the initial 12 months. Although the average number of service hours increased in year 7, the average number of work hours also increased.

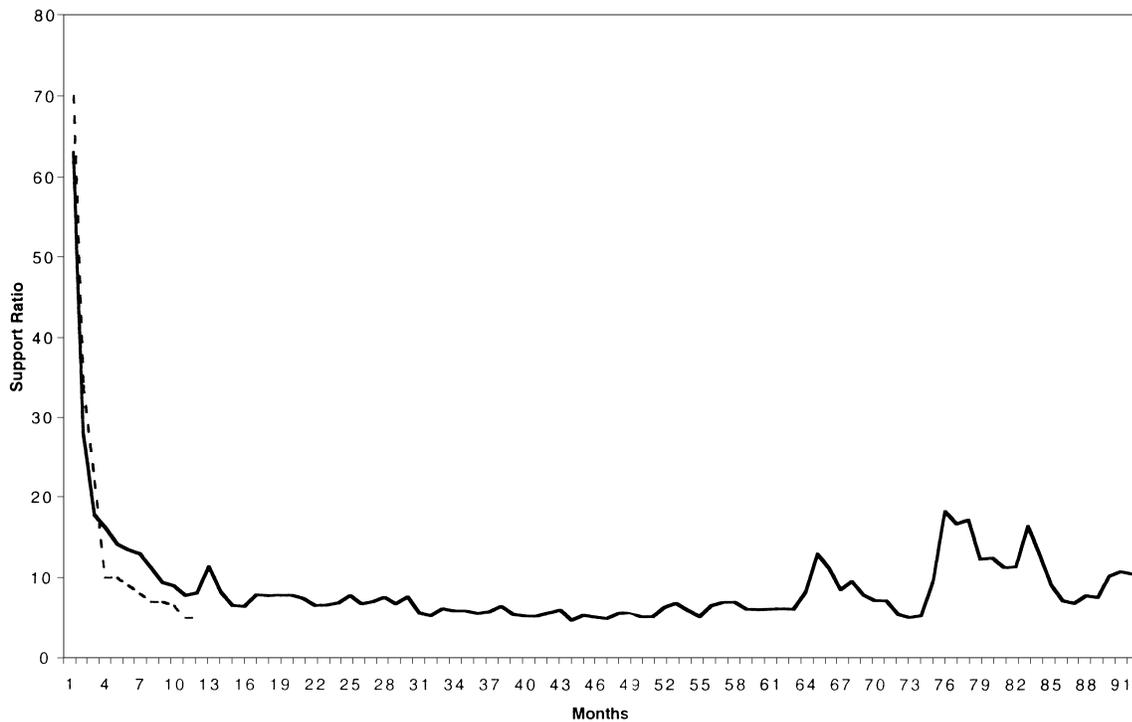


Figure 11.7. Support ratios across 91 months in Colorado and 12 months in Virginia. (Key: - - - - - Virginia; ——— Colorado)

Wehman and colleagues (1988) indicated that an average of 266 hours of support time was needed for a group of individuals with traumatic brain injuries. In contrast, SDE provided an average of 168 hours of support the first year for individuals across disability labels. The average number of hours of support decreased and then increased over the years:

- 87 hours in year 2
- 68 hours in year 3
- 59 hours in year 4
- 89 hours in year 5
- 153 hours in year 6

During the last 8 months of the final year, this decreased to 70 hours or 105 hours prorated across 12 months.

Levels of Integration

Besides earning a wage, workplace integration is one of the primary reasons behind the development of supported employment programs (Wehman & Moon, 1986). In support of this philosophical notion, Kregel and colleagues (1990) presented data depicting the level of integration experienced by workers in their model supported employment program in Virginia. About 40% of their workers experienced frequent work-related interactions with individuals

without disabilities. Another 40% had moderate levels of work-related interactions. Ten percent of the Virginia workers had no work-related interactions with individuals without disabilities. A 5-year comparison shows that 80% of SDSE workers had frequent work-related interactions with individuals without disabilities, and another 19% had moderate levels of interactions. Those who did not have frequent interactions chose jobs that provided the opportunity to work alone, without having to frequently interact with others. The high level of integration directly reflects SDE's individual job placement practices. Figure 11.8 depicts the levels of integration with workers without disabilities in the Colorado program and the Virginia program.

Reasons for Job Separations

In their seminal chapter, Kregel and colleagues (1990) presented a list of reasons why workers in their supported employment program left their jobs. Using SDE's first 5 years of data, we compared SDE separations to the Virginia data (see Figure 11.9). The greatest proportion of SDE workers (15%) left for a better job. Other reasons included, in order of prevalence, economic layoffs, seasonal layoffs, and poor attendance and tardiness. In Virginia, the largest group left their jobs due to economic layoffs. Other reasons included that the individuals did not want to work, wanted a better job, or had a poor work

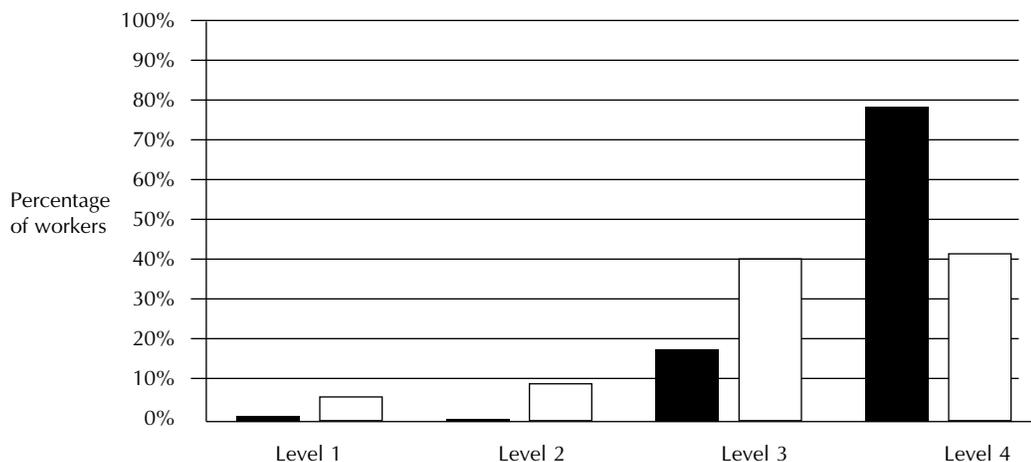


Figure 11.8. Levels of integration between participants in the Self-Directed Employment Program and workers without disabilities in Colorado and Virginia. Level 1 indicates complete segregation or general physical separation. Level 2 indicates no work-related interaction. Level 3 describes a moderate level of work-related interaction. Level 4 indicates frequent work-related interaction. (Key: ■ Colorado; □ Virginia)

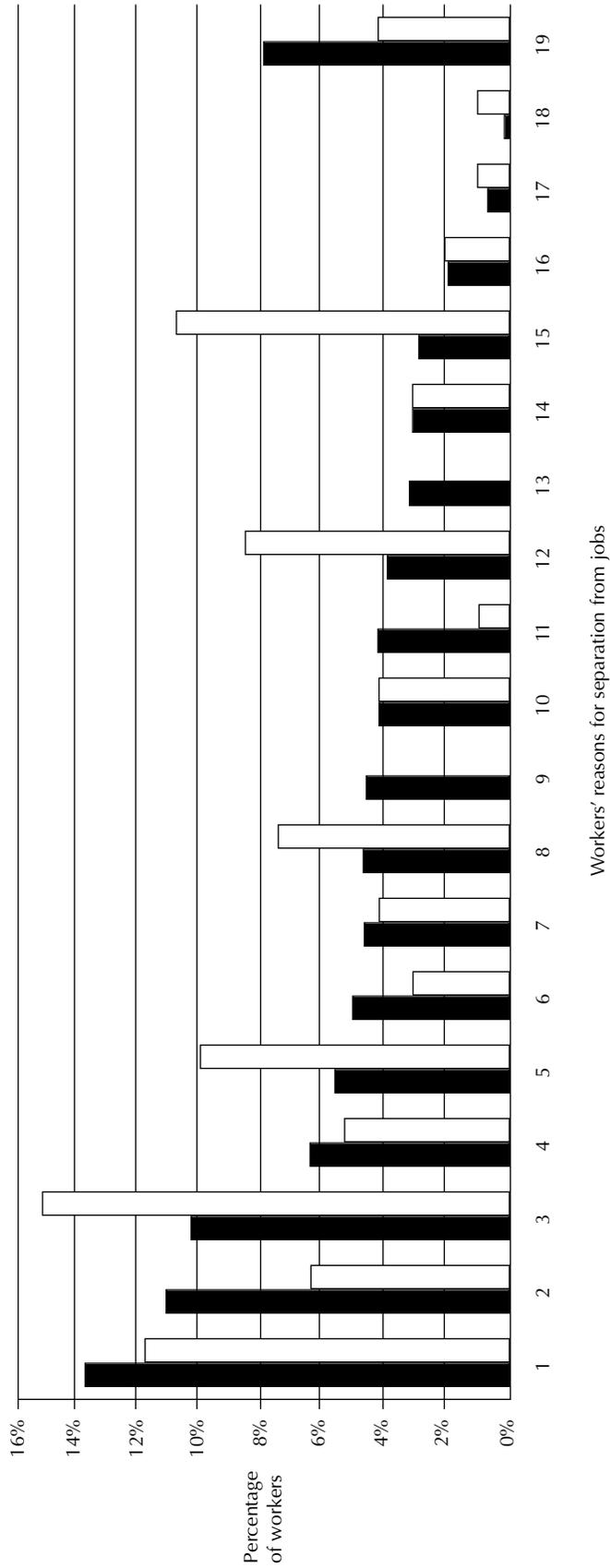


Figure 11.9. Nineteen reasons for workers' separations from jobs. Workers had the following reasons for leaving or being fired from jobs (each reason corresponds with numbered columns in the graph): 1) an economic layoff occurred; 2) the person did not want to work; 3) the person resigned to take a better job; 4) the person had a poor work attitude; 5) the person had a history of poor attendance at the job or tardiness; 6) the employer was uncomfortable with the arrangements; 7) the person worked too slowly; 8) it was a poor job match; 9) the person's parent or guardian initiated the person's resignation; 10) the person did low-quality work; 11) the person displayed insubordinate behavior; 12) the person experienced a medical or health problem; 13) the person displayed aberrant behavior; 14) the person required continual prompting; 15) a seasonal layoff occurred; 16) a transportation problem arose; 17) there was parental interference; 18) the person experienced a conflict with Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI); 19) the person had other or undisclosed reasons. (Key: ■ Virginia; □ Colorado)

attitude. Maybe SDE's emphasis on self-directed practices caused the search for a job that better matched workers' interests.

nance and related services, and about 13% chose service jobs in the lodging industry.

Types of Jobs

In 1995, 7 years into the program, 37% of the individuals had obtained service jobs, 28% had clerical and sales jobs, and 16% had professional, technical, and managerial jobs (see Figure 11.10). These percentages reflected the Colorado Springs entry-level job market. During the last 4 years SDE operated, the percentages remained near these levels.

To examine the service jobs closer, we broke down this category into its occupational divisions (see Figure 11.11). Of the 35% of all the workers involved in service work, almost half of those workers (45%) choose food and beverage preparation jobs, 16% chose building mainte-

COSTS

Supported employment costs reflect local expenses and reimbursement rates. Costs differ among rural and urban locations and across the country. SDE maintained open books, and we shared our costs with the Colorado Springs Office of the Colorado Division of Vocational Rehabilitation for many years to determine a fair reimbursement rate. We used Hill's (1988) per hour cost formula to determine SDE per hour costs. This section details the steps to Hill's formula and uses 1999 SDE costs to describe how to determine per hour costs. Colorado Association for Persons in Supported Employment (APSE) undertook a statewide cost study in response to a change from

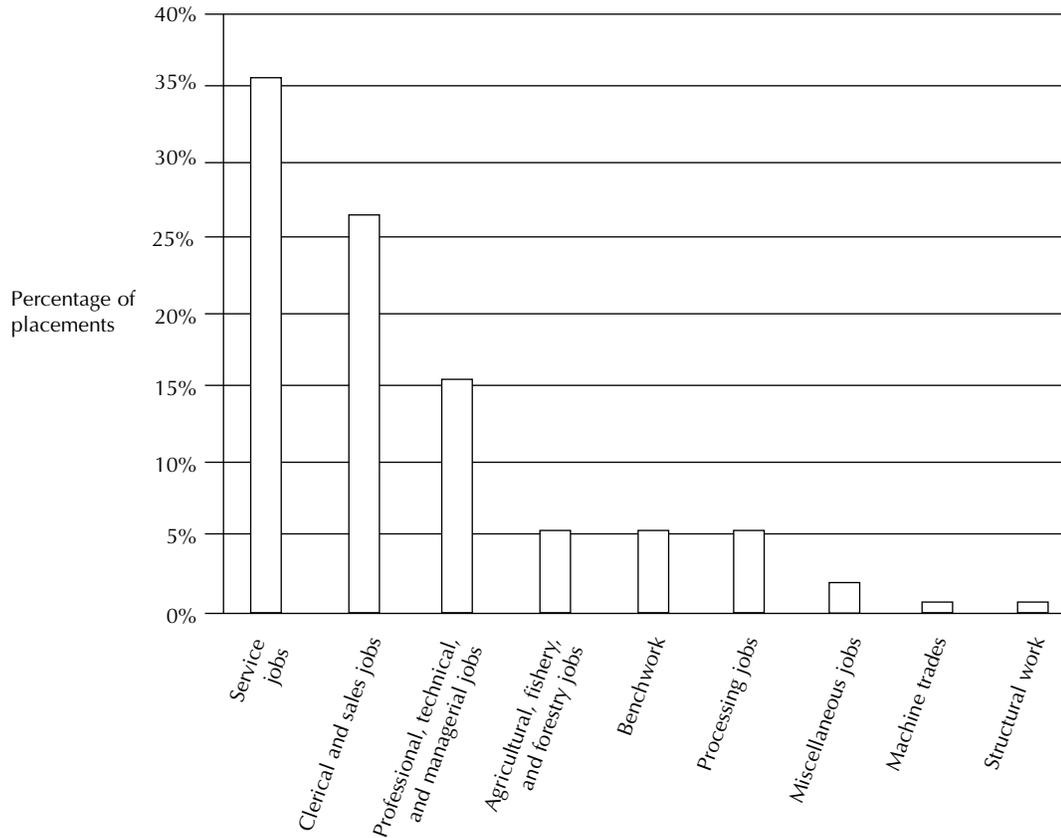


Figure 11.10. Types of jobs that participants in the Self-Directed Employment Program obtained.

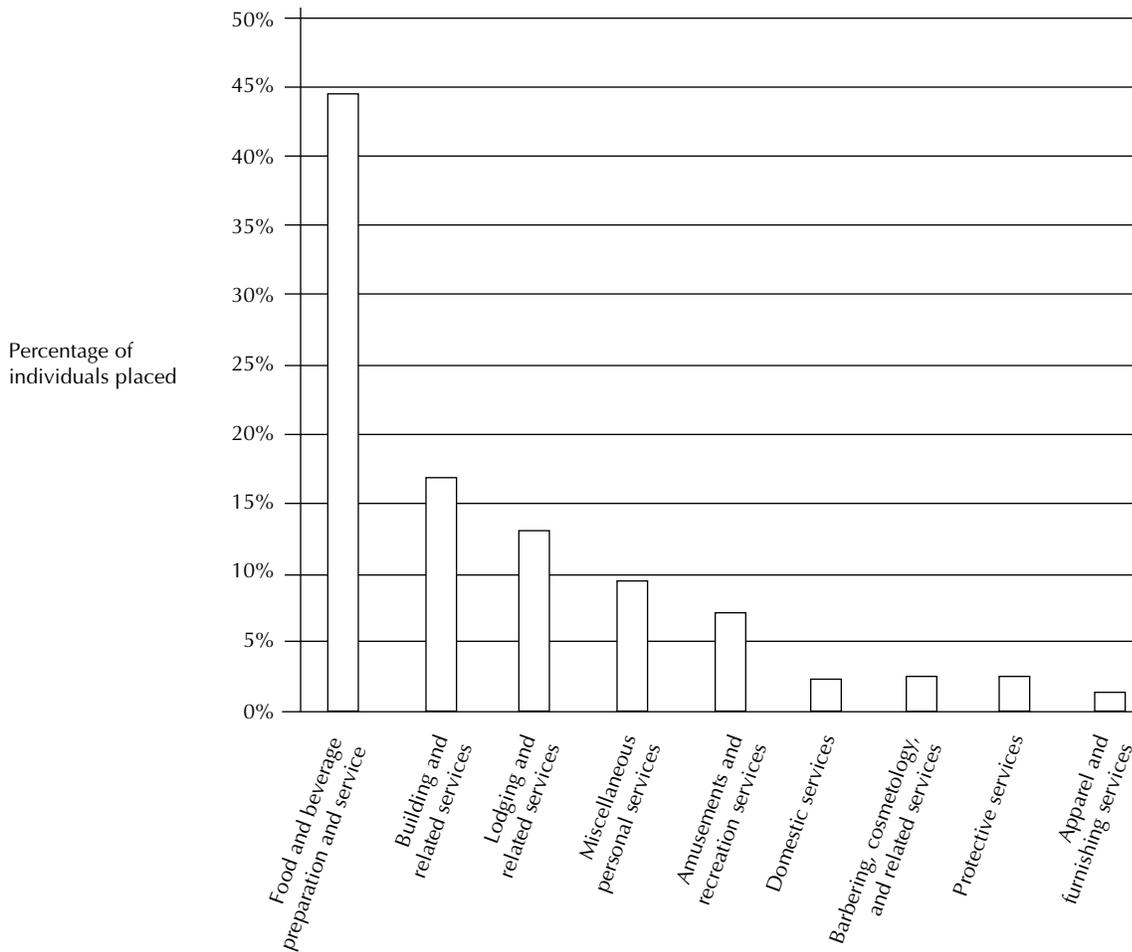


Figure 11.11. Types of service jobs that participants in the Self-Directed Employment Program obtained.

locally negotiated vocational rehabilitation rates to a lower state established level (Martin & Lawhead, 1999). These data show how Hill’s formula worked across a variety of supported employment programs.

Hourly Cost Formula

The sum of three cost factors produces a per hour supported employment cost: 1) direct service staff costs, 2) support staff costs, and 3) support costs. By 1999, SDE had already begun closing down in an attempt to cut costs to stay within new lower statewide mandated reimbursement rates. In 1995, SDE employed more than 15 direct service full-time employees (FTEs), which decreased to 4.3 by 1999. Table 11.2 shows the steps to determine costs. Table 11.3 presents SDE’s costs for 1999. As SDE decreased staff dur-

ing 1997 to 1999, the total budget decreased, but the cost per hour increased as the program lost economy of scale.

Colorado 1999 Cost Study

Colorado APSE trained supported employment agencies across Colorado to use Hill’s (1988) per hour cost formula (Martin & Lawhead, 1999). Colorado APSE requested that these agencies submit their per hour costs. Several agencies reported that they could not get specific support staff and support cost figures from their agency because of the way their program kept nonprogram-specific financial records. A total of eight agencies submitted their costs. Two of these agencies served rural areas, and the other six served urban regions. The programs served between 10 and 50 individuals per year funded

Table 11.2. Steps used to determine the total hourly cost of the Self-Directed Employment program

Cost factor	Step	Formula	Example
Direct service hourly costs	1	Divide the total amount of the direct service cost (i.e., salaries and benefits) by the number of direct service full-time employees (FTEs). This yields the average yearly direct service FTE costs.	$(\$89,413 + \$16,310) \div 4.3 = \$24,587$
	2	Subtract the total amount of time off (i.e., vacation, sick, and holiday leave) from 52 weeks. This yields the total number of work weeks	52 weeks – 10 weeks = 42 work weeks
	3	Multiply the number of work weeks by 40 hours. Multiply the answer by the direct service time factor. ^a This yields the available yearly FTE staff intervention hours.	$(42 \times 40) \times .65 = 1,092$
	4	Divide the average yearly direct FTE costs (from Step 1) by the available yearly direct service FTE service hours (from Step 3). This yields the direct service hourly cost.	$\$24,587 \div 1,092 = \22.52
Support staff hourly costs	5	Determine support staff salary and benefit costs. Support staff includes secretaries, supervisors, and any other administrator or support person who supports the program.	
	6	Divide the nondirect staff support costs (i.e., salaries and benefits) by the direct service FTEs. Divide this answer by the available yearly direct service FTE hours (from Step 3). This yields the nondirect service hourly cost.	$(\$68,467 \div 4.3) \div 1,092 = \14.58
Support costs	7	Determine the total supports costs, including rent, utility bills, accounting, supplies, travel expenses, training expenses, telephone bills, cost of mail, copier expenses, liability insurance, and so forth.	The Self-Directed Employment (SDE) program's largest support item was travel reimbursement at \$12,000. The university donated office space, utilities, insurance, and accounting as a community service.
	8	Divide the total support cost by the number of direct service FTEs. Divide this number by the available yearly direct service FTE hours (from Step 3). This yields the hourly support costs.	$(\$25,600 \div 4.3) \div 1,092 = \5.45
Total hourly cost	9	Add the direct service hourly cost, the nondirect service hourly cost, and the support hourly cost. This yields the total hourly cost.	$\$22.52 + \$14.58 + \$5.45 = \42.55

^a Hill (1998) recommends a .65 direct services intervention time factor. Our own experience verified this amount, as our staff were rarely able to attain billable hours above this level.

Table 11.3. The 1999 costs for the Self-Determined Employment program

Cost factors	Percentage of total hourly cost	Hourly cost
Direct service staff	53	\$22.52
Support staff	34	\$14.58
Support costs	13	\$ 5.45
Total hourly cost	100	\$42.55

by the Colorado Division of Vocational Rehabilitation, and a total of 39 to 150 individuals per year. The two rural programs average per hour cost was \$31.76. The six urban programs averaged \$39.65 per hour, with a range of \$31.55 to \$42.65 per hour. SDE per hour costs ended up being high because of the university's generous vacation and sick leave policy. SDE salaries matched the other urban programs.

In 1999, the developmental disability system reimbursed between \$25 and \$35 per hour for job coaching. Vocational rehabilitation would reimburse between \$15 to \$20 per hour for situational assessment, between \$400 and \$600 for job development, and between \$10 to \$30 per hour for job coaching (up to \$900 per month).

The amount that vocational rehabilitation reimbursed also decreased if the person was not successful. Simply put, no urban program received reimbursement that covered their costs.

Colorado APSE used these costs figures to argue for a fair reimbursement rate from the Colorado Division of Vocational Rehabilitation and Division of Developmental Disabilities. Both the Colorado Division of Vocational Rehabilitation and the Division of Developmental Disabilities did not increase their 1999 reimbursement rates but did promise that they would continue to examine the issue. Faced with a situation where the reimbursement rates were lower than the cost of operation, SDE closed its doors.

