*SUPPORTED EMPLOYMENT AS AN INTERVENTION PACKAGE:
A PRELIMINARY ANALYSIS OF FUNCTIONAL VARIABLES*

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In this two-experiment investigation, the long-term (at least 6 months) employment of 51 moderately mentally retarded clients who were placed into 64 supported employment positions was first evaluated relative to 10 training and posttraining components that comprised a supported employment training package. In Experiment 1, chi-square analyses were used to identify three components that differentiated successful (employed for at least 6 months) from unsuccessful clients. In Experiment 2, 4 successful clients were further evaluated in a nonconcurrent multiple baseline design to determine whether the three variables identified during the group analysis (client advocate, collateral behavior, and follow-up plan) were included in the training packages. These results are discussed in terms of the need to establish better the functional variables of supported employment training programs.

DESCRIPTORS: supported employment, moderate mental retardation, maintenance

A number of demonstration projects have been reported in the literature that attest to the efficacy of the supported employment model for persons who are mentally retarded (Bates, 1986; Bellamy, Rhodes, Mank, & Albin, 1988; Noble & Conley, 1987; Rusch & Minch, 1988; Vogelsberg, 1986; Wehman & Kregel, 1985). In most demonstration projects, mildly or moderately mentally retarded adults are placed in individual community job sites by job coaches or coordinators and receive at least minimum wage for part-time employment. The principal outcome measures have been the amount of money earned, length of employment, and cost/benefits.

As summarized by Rusch (1986), the efficacy of supported employment procedures appears to have been established, based on both the replica-

bility of the procedures across relatively large numbers of clients within a given supported employment program and the generalizability of various versions of the supported employment model across independent investigators. For example, Wehman et al. (1985) reported the successful placement of 167 persons with mental retardation into part-time and full-time employment through the Research and Rehabilitation Training Center at Virginia Commonwealth University, and Lagomarcino (1986) reported the successful placement of 108 individuals in paid community positions through the Developmental Services Center in Illinois. Variations of the supported work model have been implemented successfully in other settings by numerous investigators (Moss, Dineen, & Ford, 1986; Rusch, 1986; Shafer, 1986; Vogelsberg, 1986; Wehman, 1986).

However, the functional variables of supported employment have been more difficult to identify partly because supported employment involves several phases of treatment, each comprised of multiple treatment components. The major phases are: (a) job development, involving an analysis of the work environment and related behaviors; (b) job placement, involving a job-client match; (c) on the job training and assessment; and (d) follow-up to adjust performance requirements and to fade supporting stimulus elements (e.g., the job coach, the schedule

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of reinforcement). Supported employment programs typically involve all phases, but the functional value of any given phase has been debated (e.g., Moss *et al.*, 1986; Wehman, 1986).

Moreover, during each phase several procedures may be implemented. For example, studies of on-the-job training have suggested the importance of using specific types of prompting techniques (Wacker *et al.*, 1986), employing generalization training procedures (Wacker & Berg, 1986), involving co-workers (Rusch & Minch, 1988; Shafer, 1986), developing social behavior (Chadsey-Rusch, 1986), and increasing the worker's responsiveness to the natural antecedents and consequences in the work environment (Wacker *et al.*, 1986). The presence of multiple phases and components complicates discrete analysis of specific independent variables. Additionally, the training criteria established by employers are frequently difficult to define and can be based as much on the social behavior of the client as on work skills (Chadsey-Rusch, 1986; Greenspan & Shoultz, 1981; Salzberg, Agran, & Lignugaris/Kraft, 1986). In addition, the criteria for fading the presence of the job coach (posttraining) are defined by the employer, who is frequently unsure about these criteria until after he or she has worked with a client.

Nevertheless, there could be some benefit to establishing the functional variables within supported employment programs. Such programs are expensive to initiate, and each training component can add to the cost. As a supported employment program becomes more successful, and the job coach must train and provide follow-up services to greater numbers of clients, there can be a tendency to cut back on the components used for the initial clients (e.g., follow-up training). It would be preferable to have an empirical basis for deleting certain components (Test, Grossi, & Keul, 1988).

Accordingly, the purpose of this investigation was to conduct a preliminary analysis of the functional variables of a supported employment program implemented in Iowa over a 4-year period. We were particularly interested in four categories of variables that the literature has indicated may be functional in acquiring and maintaining em-

ployment: (a) prior training and work experience, (b) current training (on-site training, sufficient exemplars training, training with permanent prompts, and display of collateral social behavior), (c) presence of a client or program advocate, and (d) maintenance (follow-up and maintenance plan). These 10 independent variables, generated from both the supported employment and applied behavior analysis literature, appeared to us to represent a comprehensive training package that incorporated components for acquisition, generalization, and maintenance of behavior. The analysis involved a two-phase process. In Experiment 1, 51 clients with moderate or severe mental retardation receiving supported employment services were selected for evaluation. A statistical analysis was conducted to determine which independent variables were related to long-term employment (at least 6 months). In Experiment 2, these components were incorporated into a training package implemented with 4 workers and evaluated using a nonconcurrent multiple baseline design.

EXPERIMENT 1

METHOD

Participants and Settings

During the 4 years of the project, over 125 individuals participated in a variety of vocational programs that utilized the supported work model. The programs included school work experience, the Jobs Training Partnership Act summer youth employment program, individual placements, and a variety of work crew options.

All clients who had worked for pay for at least 1 month in individual community job placements were eligible for the study. Clients placed in work crews and temporary jobs (work experience as part of their high school program or summer youth employment through the Jobs Training Partnership Act) were excluded from the investigation. Clients who had worked less than 1 month were excluded because they had not reached posttraining. The 51 clients who met the criteria were placed in paying jobs as participants in one of two federally funded supported employment demonstration projects

(Wacker & Berg, 1984; Wacker, Berg, & Flynn, 1987) that were implemented over a 4-year period (1985–1988). All of the clients were diagnosed in school or adult services records as functioning in the moderate or severe range of mental retardation. Table 1 provides summary information for the participants.

The clients were referred to the supported work project through their local school programs (five school districts participated) or through their adult vocational programs (three adult training centers participated). In every case, a job coach was hired with project funds to conduct job development, placement, on-site training, and follow-up in accordance with the supported work model (Wehman & Kregel, 1985).

Thirty-two of the participants had received previous work experience training through their school programs, but none had been placed in supported employment for pay prior to their participation in the project. The clients worked between 3 and 42 hr ($M = 15$ hr) per week and received an hourly wage of between \$1.68 and \$5.14 ($M = \$3.08$). Fifteen clients received less than minimum wage through subminimum wage certification, and these clients all worked as part of a school program. In every case, job placement occurred in the community, and the clients worked individually, primarily in jobs classified as food service ($n = 20$), janitorial ($n = 15$), clerical ($n = 11$), and greenhouse/seedlab ($n = 8$). At the time of this investigation, 35 (55%) of the placements were for at least 6 months; 16 of these were for at least 1 year. The remaining placements had been terminated sometime prior to 6 months; however, 21 of these placements had continued for at least 3 months. For the purposes of this experiment, placements lasting 6 months or longer were considered the successful group. The remaining 25 placements comprised the unsuccessful group for comparison purposes. Table 2 provides the reasons for termination of employment as specified by the job coach.

Design

A between-groups (successful and unsuccessful) chi-square comparison was conducted to compare

Table 1
Participant Information

Characteristic	<i>n</i>
Gender	
Female	23
Male	28
Age (years)	
Range	16–42
<i>M</i>	22
Level of functioning	
Moderate	47
Severe	4
Other disabilities*	
Behavior disorders	8
Physical disability	5
Dual diagnosis (with mental illness)	5
Hearing impairment	4
Health concerns (diabetes, epilepsy)	3
Hyperactivity	1
Verbal ability	
Understands simple, one-part directions	49
Uses simple statements to express him/herself	42
Place of residence	
Parents' home	32
Group home	17
Independent	1
Previous work experience (unpaid)	32
Previous paid employment through current project	13

* Some participants had more than one additional disability.

the two groups based on each independent variable (present or absent). The chi-square analysis was used to identify potentially functional variables related to long-term employment.

Dependent Variable, Independent Variables, and Reliability

The dependent variable was the length of time (in months) worked for pay. The 10 components of the training package (provided in Table 3) were selected because they were presented to job coaches by the experimenters, but were not required for all participants. Each component was described to local program staff, who then selected various combi-

Table 2
Reasons for Termination of Employment

Inadequate work skills	6
Job ended (employer decision) ^a	6
Inadequate social skills	4
Job ended (time restrictions) ^b	4
Moved out of district	2
Employer dissatisfaction (unspecified)	1
Lack of family/residential support	1
Health concerns	1

^a The employer terminated the placement for reasons other than poor work or social skills.

^b This involved end-of-school-year timing where transportation was no longer available, or the family did not want the job to continue over the summer.

nations of the components to implement with given clients. No attempt was made to require local staff to implement any given component. The experimenters consulted with the staff, emphasized the need for the various components, and praised them for implementing the components, but otherwise permitted local staff to choose components that appeared reasonable. Other training components, such as delayed prompting and praise delivered by the job coach, were always presented during in-service training but were not measured by the investigators.

Collateral behavior was documented by the job coaches by (a) observing and recording interactions between the participant worker and others (co-workers, customers, etc.) and (b) verbal report from the job coach regarding social communication and interactions between the participant and others. In the cases in which verbal report was the sole source of information, verification in the form of an independent second opinion from another observer was obtained.

Documentation of collateral behaviors was conducted by using continuous frequency recording of prespecified behaviors (Years 1 and 2) or by conducting intermittent frequency counts of the prespecified social and communicative behaviors, as well as frequency counts of opportunities to interact that were missed by the participant (Years 3 and 4). Training to display social and communicative behaviors in the work place was not directly pro-

vided by the job coach, except in cases in which the worker's behavior was intrusive and/or disruptive. However, incidental teaching in the form of natural modeling by co-workers usually occurred at sites in which the participant had regular contact with others.

The job coaches (who were naive as to the specific purposes of this investigation) kept accounts of all training components in the form of written training plans on a training summary form, and this information was then recorded in each client's file. The research assistants and program coordinator also visited job sites periodically to observe and verify training procedures, as well as interactions with co-workers and supervisors.

A compilation form was then developed that listed each of the independent variables and the dependent variable. The research assistants used permanent participant records to document the presence or absence of each component for each job placement. At this time, missing information was gathered via verbal report from the job coach.

Finally, a sample of 20% of the job placements was selected for reliability probes by taking every fifth placement. A second person independently used the permanent records to score the presence or absence of the independent variables and the dependent variable plus wages earned. An agreement occurred when both recorders indicated that the same component was present or absent in the training package for a placement, and reliability was calculated by dividing agreements by agreements plus disagreements. Overall occurrence reliability was 89% and ranged from 25% to 100%. (The 25% reliability figure occurred for 1 client; the next lowest reliability figure was 75% for all other clients.)

Procedures

Job coaches at each project site were hired through subcontracts with the local agency. At the beginning of each year of the project, the training package was presented to the job coaches and other participating staff at the project sites by the investigators. Job development was performed initially by the job coaches with technical consultation provided by

Table 3
Independent Variables Evaluated in Experiment

Variable	Definition	Number of placements
1. Prior training	Client received part of job training at school or adult center prior to or in conjunction with on-site training.	12
2. Previous work experience	Client had previous community work experience or had been placed previously in a community job for pay as part of the project.	50
3. On-site training	Client received training on the job by a job coach. Only clients who successfully completed the job task during the first training sessions, or who were trained entirely by co-workers, did not receive on-site training.	60*
4. Sufficient exemplars	Client received training on two or more examples of the job task, job materials, job setting, or trainers.	29
5. Permanent prompts	Client was trained to use a prompt to guide performance (e.g., pictures or a written list).	8*
6. Collateral behavior	Collateral behavior was defined as job-related social and communicative behaviors that were taught as part of job training. Clients who had opportunities for social interactions on the job site, and who engaged in social interactions, were scored as displaying collateral behavior.	43
7. Client advocate	One or more co-workers were asked by project staff to be an advocate for the client by assisting with training and socializing with the client.	38
8. Program advocate	A supervisor, manager, or someone in authority served as an advocate for supported employment (e.g., served on an advisory council) but did not necessarily work closely with the client.	19
9. Follow-up	A consistent follow-up plan was initiated by the job coach that involved at least monthly follow-up calls or on-site contact other than for crisis intervention.	50
10. Maintenance Plan	A specific maintenance procedure (other than follow-up) was developed to facilitate long-term employment, such as self-monitoring, soliciting of reinforcers, natural contingencies, etc.	8*

* Deleted from analysis.

the investigators, and consisted of the procedures discussed by Wehman and Kregel (1985). Local staff referred participants to the project and conducted all on-site training and follow-up. On-site training and follow-up consisted of delayed prompting, intermittent praise, and task analysis (which were components of training for all participants), and the independent variables listed in Table 3, as selected by the job coach for each job.

RESULTS

The results of the first 4 years of the project were kept in written summaries as discussed previously and were then coded by individual components. Of the 10 components listed in Table 3, two of

the components were deleted from further analysis because fewer than 10 clients received the components (permanent prompts and maintenance plan), and one component was deleted because fewer than 10 clients did not receive the component (on-site training).

As shown in Table 4, three of the components (client advocate, follow-up, and collateral behaviors) were statistically related to employment ($p \leq .05$) at 6 months. Therefore, the results of this component analysis indicated that of the 10 training components, only three (client advocate, follow-up, and collateral behavior) were related statistically to long-term employment, with two of these variables being connected with training and one with post-

training. No variables related to previous training were significantly related to success.

The results of Experiment 1, therefore, provided some indication that the functional variables for our training package were client advocate, follow-up, and demonstration of collateral behavior. That is not to suggest that the other variables were not necessary, but only that on a group basis, they were not sufficient for long-term employment.

To evaluate further the specific effects of these three variables on long-term employment, the 4 participants who were in the successful group for which single-case data were available were then analyzed separately. Our specific intent was to determine whether these same three variables were present for these individuals to provide partial confirmation of the group analyses. This was considered necessary for two reasons: (a) Our investigation is best considered as constituting developmental research, and as such we are attempting to delineate further functional variables on a progressively more systematic basis, and (b) if the identified variables were present in our single-case analyses, then there would be an increased empirical basis to study these variables in a proactive investigation. If, conversely, the variables were not present on an individual basis, then the results of the group analysis might be considered with even greater caution.

EXPERIMENT 2

METHOD

Participants and Settings

Four clients participated in the single-case evaluation phase of the investigation. These clients were selected from the successful group in Experiment 1 based on the following criteria: (a) at least one baseline session was conducted at the job site prior to training, (b) reliability probes (interobserver agreement) were conducted on at least 10% of the sessions across baseline, training, and posttraining, and (c) the client showed relatively stable performance during baseline. The need for baseline and reliability was discussed at in-service meetings conducted at all project sites, but because the overall

Table 4
Chi Square Analysis of Seven Components of the Supported Employment Training Package

Variable	Chi square
1. Prior training	0.9811728
2. Previous work experience	0.99275
3. Sufficient exemplars	1.1809878
4. Collateral behavior	8.2772497*
5. Client advocate	4.5674812*
6. Program advocate	0.7982082
7. Follow-up	4.62275*

* Statistically significant; *p* < .05.

goal of the projects was placement for pay, baseline and reliability were not mandatory components of placement. As a result, only 7 clients in the successful group met the first two criteria, and only 4 of these clients had stable baselines. Each of the clients worked for at least minimum wage, had worked on the job for at least 10 months, and was diagnosed as moderately mentally retarded. All were ambulatory and none had severe behavior problems. The 4 clients were placed in their respective jobs through three different agencies (two schools and one adult training center).

Agnes was 21 years old and was employed for 15 hr per week at a department store where her primary responsibility was to hang up garments (all of the clients had multiple job tasks, but they each had a primary job task). Agnes was also employed at a second, unrelated job that was not included in this investigation. She had been employed previously (but unsuccessfully) as a motel housekeeper through the project. Agnes was considered by the school staff to have good social skills. She responded to one-sentence verbal instructions, but her speech was very difficult to understand and consisted mostly of one-word responses to questions or greetings. Agnes lived independently in an apartment with drop-in counseling support on community living skills from a semi-independent living program.

Matt was 25 years old and worked at a fast food restaurant where he wiped off and set up tables for 15 hr per week. Matt had never worked in the community prior to this job. Matt responded to oral instructions and spoke in sentences, but he

Table 5
Independent Variables Present for Each Client in Experiment 2 During Training and Posttraining

Training ^a	Posttraining ^b
Dan	Scheduled follow-up visits
Display of collateral social and communicative behaviors	
Client advocate	
Program advocate	
Barb	Scheduled follow-up visits
Sufficient exemplars	Maintenance procedure
Permanent prompts	
Display of collateral social and communicative behaviors	
Client advocate	
Matt	Scheduled follow-up visits
Sufficient exemplars training	
Display of collateral social and communicative behaviors	
Client advocate	
Agnes	Scheduled follow-up visits
Sufficient exemplars training	
Display of collateral social and communicative behaviors	
Client advocate	
Program advocate	

^a The training package for all clients included delayed prompts, intermittent praise, and on-site training by the job coach.

^b The posttraining package for all clients included fading of reinforcement, prompts, and presence of job coach.

frequently used repetitive speech with others. He was also considered to have a brief attention span and was frequently off-task at the adult center. Two of these behaviors (repetitive speech and off-task behavior) were the primary reasons for his lack of community employment prior to this project. Matt lived in a supervised group home.

Dan was 21 years old and cleaned cages at a dog kennel 10 hr per week. He was in his final year of high school and had not participated in a work experience program in the community or had any previous employment prior to the project. Dan had a severe hearing loss with minimal receptive and expressive oral communication skills. Dan was also described as being socially withdrawn and seldom initiated social interactions. Dan lived with his parents.

Barb was 20 years old and was employed by a shopping mall to sweep the hallways of the mall for 20 hr per week. She was socially responsive and spoke in sentences. She was a high school student living with her mother at the time of her employment.

Design

A nonconcurrent multiple baseline design was used to evaluate the specific performance of the 4 clients. Length of baseline ranged from one to 10 sessions to form the multiple baseline design, with separate conditions consisting of baseline, training package, and posttraining package.

Dependent Variable, Independent Variables, and Reliability

The dependent variable was client performance on the job tasks. Table 5 provides a description of the independent variables present for each client during training and posttraining. A client was scored as successful on a task step if the client performed the step without prompting or correction from the job coach.

Two observers independently but simultaneously recorded each task step completed by the client as correct (without prompts or correction) or as incorrect. The independent observers consisted primarily of the job coach and the second author, but teachers, teacher associates, and the other investi-

gators also completed reliability checks. Only the investigators were aware of the specific purposes of the investigation. Interobserver agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements. For Agnes, reliability was conducted on 53% of the sessions, with average reliability being 98% (range 67% to 100%). For Matt and Dan, reliability was conducted on 13% of the sessions, with average reliability being 98% (range, 83% to 100% and 88% to 100%, respectively). For Barb, reliability was conducted on 26% of the sessions, with average reliability being 91% (range, 78% to 100%).

Procedures

Baseline. Baseline sessions were conducted by either the job coach or the investigators. The duration of each baseline session varied across clients but constituted at least one attempt to complete the target task. During baseline, the clients were given a complete description of the task to be performed, in the manner the employer normally used to orient new employees, but no further prompts, correction, or praise was delivered by the job coach or investigators. Instead, the client was simply told to attempt the task. Baseline sessions were conducted once for Dan, three times for Barb (over 2 days), five times for Matt (during 1 day), and 10 times for Agnes (during 1 day).

Training package. In all but one case, the training package was implemented several days after the last baseline session. For Matt, training began the same day that baseline was conducted. The interval between baseline and training was dependent on the amount of time between notification of employment and the initial date of employment. The training package always included delayed prompts and intermittent praise and frequently involved the job coach's initial completion of the job tasks concurrently with the client. The research assistants and the program coordinator visited job sites frequently in the early stages of the project, and intermittently throughout the project, to ensure that the coaches were implementing the training strategy correctly.

The training package consisted of a client advocate on the job site for Dan, Agnes, Matt, and

Barb, and a program advocate for Dan, Agnes, and Matt. Agnes, Matt, and Barb received generalization training (sufficient exemplars and/or permanent prompts). All 4 clients worked in settings that provided multiple opportunities for collateral behavior (social and communicative interactions), and all 4 displayed these behaviors. Finally, a follow-up job plan was used for all 4 clients. No other variable from Table 3 was included in the training/posttraining package for more than 1 client.

The job coach initially developed a task analysis for each job task by interviewing the employer, receiving instructions and/or training from him or her as needed, and by observing co-workers performing the same tasks. The steps were written out in a specific format that was suitable for training purposes. It was verified with the employer and adjusted as necessary.

Baseline and training data were collected using the task analysis. The trainer and reliability observer recorded worker performance on each step as correct (performed independently and accurately) or incorrect (a cue from the trainer was necessary to prompt the worker to perform the step).

Training was conducted each time the client worked and lasted from 2 to 4 hr, depending on the work schedule of the client. Due to the repetitive nature of the work tasks, intermittent probes were conducted during training (for data collection purposes) with each probe constituting one (Dan and Barb), three (Matt), or five (Agnes) attempts to complete their respective tasks. The overall duration of training was 1 week for Agnes, 3 weeks for Dan, 4 weeks for Matt, and 6 weeks for Barb.

Training continued until the job coach and the on-site supervisor agreed that the client was working with sufficient independence. For 3 of 4 clients, this required the completion of the task without assistance from the job coach. For Dan, the supervisor indicated that the job coach was no longer necessary.

Posttraining package. During posttraining, the job coach established a follow-up schedule that varied across clients and over time within clients. In every case, the job coach checked on the client at least weekly at the beginning of posttraining and at least monthly by the end of posttraining.

Figure 1. Single-case analysis of worker performance on job tasks.

Posttraining data were collected intermittently, with the posttraining sessions being conducted in the same manner as baseline, except that no directions were provided to the client. Instead, the job coach observed the client as he or she completed the steps of the task. At the beginning or end of the observation period, the job coach discussed the client's performance with the supervisor, who indicated his or her satisfaction with the performance of the client. The duration of posttraining was 9 months for Dan, 7 months for Barb, 10 months for Matt, and 1 month for Agnes. Agnes and Barb were employed longer than the posttraining period, but probes were discontinued.

RESULTS

The results of the single-case analysis are provided in Figure 1. During baseline, Dan and Matt demonstrated generally low levels of performance, with Matt also performing relatively consistently

across sessions. Barb performed at a much higher level, especially during the first baseline session, where she completed 90% of the steps correctly (but never completed the task correctly). Agnes demonstrated the most variable performance, but completed the task steps with 70% or less accuracy during the final seven baseline sessions.

Dan and Barb demonstrated immediate improvement during the first training session, with no overlap in performance occurring between baseline and training for Dan and only two overlapping points for Barb. For Matt, substantially improved performance occurred beginning with the second training session, after which there were no overlapping data points between baseline and training. Agnes was again the most variable, but performed errorlessly beginning with the sixth training session.

Barb, Matt, and Agnes performed errorlessly during their final three training sessions, whereas Dan's performance was more variable. However,

he completed the final five training sessions with at least 80% accuracy, which was acceptable to his employer.

Comparable results continued throughout post-training. Matt and Agnes performed errorlessly during every posttraining session, and Barb completed at least 85% of the steps correctly and performed errorlessly on eight of 11 posttraining sessions. Dan's performance continued to be less accurate, completing about 75% of the steps correctly until the final session, which was 100% correct. However, the performance of all clients continued to be judged as sufficient for pay by their employers, and no further intervention was provided other than periodic follow-up by the job coach.

Both sets of results, the continued success of the clients and the presence of the three training components, provide further evidence that these three variables are functionally related to long-term supported employment. The results also suggest that similarly conducted component analyses may be a method by which the active components in supported work programs can be identified and then incorporated into subsequent evaluations, providing for further systematic development of supported work training packages.

GENERAL DISCUSSION

At the completion of this investigation, the 4 clients who participated in Experiment 2 had been working for at least minimum wage for 10 months or longer, providing perhaps the best evidence that the training and posttraining packages were successful. Of the 64 placements in Experiment 1, 16 (25%) had worked for at least 1 year. Although these outcomes provided additional support for supported employment as a training and placement model, the question of why it worked still remains. In other words, the functional variables within the numerous training components have not been established.

In this investigation, we attempted to provide an initial analysis of the components of our training package that are functionally related to employment. We began by analyzing 10 separate components and were able to complete group analyses

for seven of these variables. The remaining three components were either provided too often (on-site training) or not often enough (permanent prompts and maintenance plan) to be analyzed, with at least one other variable (prior training) occurring rarely enough (12 clients) to be questionable for inclusion. Nevertheless, the group analyses indicated that of the components analyzed, only three were related statistically to successful employment. These findings were then further substantiated by the single-case analysis, in which all three components were present.

However, this analysis is limited in several respects. For example, although we attempted to isolate specific functional variables, we are unable to offer a sufficiently precise technical description of what some variables entail. Thus, a variable such as "client or program advocate" lacks the technical precision required for replication. An option for the future may be to use a "standard treatment" baseline consisting of the job coach, task analysis training, delayed prompting, and reinforcement. As components are added, either spontaneously or systematically, a new treatment phase begins. Ensuing changes in performance or outcomes might suggest which variables are responsible for such change.

In many situations, the functional variables of a training package are established initially through controlled manipulations; generality is then established through replication. With supported employment, however, the converse has occurred: There has been widespread and apparently successful general application but few experimental analyses of functional components. Perhaps such analyses will be unnecessary if there is assurance that supported employment programs will always offer the full spectrum of variables considered in the first study. However, if for reasons of cost, politics, pragmatics, or oversight certain components are omitted, it will be desirable to have an empirical basis for predicting the consequences.

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