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FOSTERING INDEPENDENCE IN DEVELOPMENTALLY DISABLED ADULTS: SUPPORTED WORK AS A REHABILITATIVE MECHANISM

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Introduction: The Centrality of Work to Adult Independence

This paper and the rehabilitation project it describes are predicated on the assumption that one of the most significant characteristics distinguishing adults from children is the ability to work and that the opportunity to do so is central to developing and sustaining adult independence. In a society where traditional marks of identity have eroded, one's role as a worker takes on enhanced significance. People are no longer asked who they are, but what they do. Indeed, Walter Neff (1968) among others has observed in his study of work and human behavior that our entire system of formal education is geared toward the transformation of the playing child into the working adult. Becoming a worker, therefore, is structurally central to becoming an independent adult with the associated feelings of personal esteem.

During the current recession, psychiatrists, psychologists, and social workers have been voicing concern about the toll that the lost opportunity to work takes on the adult's life and sense of self. Their observations tend to confirm the earlier work of Barbara Lantos (1952) who speculated that an adult who is deprived of the opportunity to work loses the essential condition of being an adult.

Mentally retarded and developmentally disabled adults have long been so deprived. Sheltered workshops offer employment for some, but they provide an abbreviated work week. Their pay, which is based on piece work, can be as low as 25 percent of the minimum wage, although swifter workers can earn 50 percent or even 75 percent of the minimum wage. The work itself depends upon the contracts that the workshops negotiate, but it is typically limited to simple packaging and assembly tasks, with little or no chance for learning either more complex tasks or work roles. As an alternative to the real world of work, sheltered workshops may offer "the least restrictive environment"

for some retarded individuals, but this is not the case for all. For higher functioning mentally retarded and developmentally disabled adults, sheltered workshops may be antithetical to the development of a sense of self as an adult and to the personal independence that fosters that identity. Grown men and women are typically referred to as "kids" and treated accordingly. "Normalization," the concept developed by Wolfensberger (1972) and widely accepted by many professionals in the field of vocational rehabilitation, is thwarted in a sheltered workshop for some disabled workers. They tend to be clustered together in an atypical work setting without models for either normal work behavior or relationships with supervisors and co-workers upon which to build the work-related behavior patterns that characterize adults the larger society.

Supported Work as a Transition to Competitive Employment for the Mentally Retarded

In 1978, the Vera Institute of Justice, a not-for-profit corporation in New York City that seeks innovative responses to persistent social problems, began to explore an alternative to sheltered workshops for moderately, mildly, and so-called "borderline" retarded individuals. Adapting a paradigm that the Institute had developed in 1968 and termed "supported work" when it sought to create transitional employment opportunities to assist ex-offenders and ex-addicts become acculturated to the world of work and to acquire marketable skills (Friedman, 1978; MDRC, 1980), Vera established a pilot project aimed at retarded sheltered workers. That pilot effort has now developed into a full-scale supported work project, Job Path. Although Job Path originally focused on mentally retarded adults, it now accepts appli-

cants with a number of different developmental disabilities who are referred from a variety of sources.

Job Path's mode of "supported work" is based on five basic concepts:

1. Real work assignments, not "make work." Job Path begins by placing its participants on real work assignments in the public sector. At these training sites, Job Path trainees work a regular 35-hour week and are paid a subsidized minimum wage while learning some of the skills needed for food service work, clerical, mailroom, porter-maintenance, housekeeping, messenger jobs, and for other positions typically found in the competitive labor market. A job counselor visits the training site at least twice a week and helps participants learn good work habits and appropriate social skills.

2. Graduated demands. Real job tasks are structured from the beginning so that new workers are not overwhelmed by initial demands. Within three to four months, on average, Job Path moves its participants from low expectation training sites to more demanding ones that also offer more varied tasks. This move may include a shift from the public sector to the private sector.

3. Understanding but firm supervision. Regular supervisors at the job site are assisted by Job Path counselors to work with these inexperienced workers to assure they can learn from their mistakes. If supervisors are not sufficiently empathetic, trainees' initial mistakes will prove to be their undoing; but if supervisors do not establish standards of performance, trainees will not become prepared for the demands of the competitive labor market. The Job Path counselor helps work site supervisors develop the necessary balance.

4. Regular evaluation and feedback. Supervision is also structured so that these inexperienced workers, who have no standard of comparison, will know how they are doing. Job Path counselors meet regularly with work site supervisors to discuss trainee progress and problems. These issues are also addressed during weekly individual counseling sessions with the trainee.

5. Opportunities for peer support. The transitional experience is structured to provide people who often feel different from the world at large a chance to gain strength from one another. Job Path provides weekly guided group meetings for trainees so that they can share their experiences and offer suggestions to one another.

Job Path's primary goal is to foster the independence of handicapped adults by helping them make the transition from sheltered work environments to competitive employment. By providing various types of support as well as real work experience, Job Path is designed to enable workers who are both disabled and inexperienced become acculturated to the complex demands of the competitive workplace. In analyzing the behaviors that are expected of workers, many experienced observers have noted that skill and ability are only two of the many components of successful job performance. In addition, workers must demonstrate motivation, conform to work rules, and "look like workers," which is to say, meet conventional standards for dress, demeanor and deportment (Neff, 1968:130). What is more, workers must relate appropriately to various kinds of people, showing the required respect to superiors and the expected camaraderie with peers. Finally, as Walter Neff has put it, workers must "be able to shift their cognitive gears well enough so that they can 'turn on' all those behaviors appropriate to work and 'turn off' all

those affects and needs which are mobilized and gratified by other settings" (p. 131).

The designers of Job Path believed that the best way to learn such a complex set of behavioral requirements is to be immersed in a real work environment but one that provides the particular supports necessary for workers who are inexperienced and cognitively (and sometimes physically) handicapped. Both components are inherent in the concept of "supported work" as developed at Vera, and both are built into the structure of the transitional work settings developed by Job Path.

After a pilot phase, and then a demonstration phase which included the research discussed in this paper, Job Path was requested by various state agencies to include developmentally disabled individuals in its program along with its mentally retarded participants. By the end of its first four years (1978-1982), Job Path provided supported work opportunities for 461 participants; 303 (66%) have been placed in jobs in the competitive labor market and 56 are still being trained. Moreover, 72 percent of the program's graduates who were placed in non-subsidized jobs and have been out of Job Path at least a year have retained these positions. Of the 461 trainees, 425 (92%) were mentally retarded, 26 (6%) were learning disabled, and 10 (2%) were people with epilepsy who had average or above average intelligence. Now into its fifth year, Job Path has begun to admit high functioning autistic young adults and to mount a pilot project for people who are hearing-impaired.

The Research Design[1]

The initial pilot effort indicated that supported work could be a feasible strategy for helping mentally retarded adults gain the independence of regular employment. Job Path then undertook a full scale demonstration project which included a formal research component designed to experimentally assess the rehabilitative impact of supported work on mentally retarded Job Path participants. Researchers from the Vera Institute's Research Department randomly assigned half of the first 120 eligible candidates referred to Job Path during its first seven months of full-time operations to an experimental group that entered Job Path as trainees. The remaining half were assigned to a control group and returned to the referral agencies from which they had come; they continued to be eligible to receive the traditional services of these organizations.[2]

In following the progress of these two groups, Job Path program personnel and the research staff were primarily interested in the extent to which Job Path fostered the independence of trainees by helping them secure and maintain non-subsidized (competitive) employment compared to members of the control group who were exposed to more traditional rehabilitative approaches (primarily sheltered workshops). The random manner of selection generated two groups that were comparable on all dimensions relevant to an assessment of the Job Path's impact, including their employment history and

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[1]Janet Weinglass, then a member of the Vera Research Department, directed the research.

[2]Members of the control group were also offered delayed entry into Job Path after one year if they were still unemployed.

sheltered workshop experience prior to Job Path application; age; gender; reading, math and I.Q. levels (see Table 1). Thus,we may infer from the experiences of the non-participant controls what would have happened to these early supported work trainees without Job Path's rehabilitative efforts.

To obtain data on the employment and related rehabilitation experiences of the research population (both trainees and controls), Vera researchers contacted each of the 120 subjects six to nine months after their assignment (and, in the case of the experimentals, their entry into Job Path). A personal, rather lengthy, interview was arranged at that time. Subsequently, experimentals and controls were re-contacted by researchers at twelve, fifteen and eighteen months after their entry into the research and interviewed, generally by telephone.

The initial face-to-face interview at six months was used not only to address the issue of Job Path's initial impact on participants' employment success. Researchers were also concerned with identifying a variety of work-related areas of participants' lives which, if affected by their program participation, might have implications for their ability to sustain competitive employment overtime and for other aspects of their lives as adults. Therefore, during the interview, respondents in the research population were asked in some detail about their attitudes toward and knowledge about work, about various dimensions of their non-work life, and about their feelings about themselves. It was hoped that comparisons between experimentals and controls on these work-related aspects of behavior would provide some insight into the nature of Job Path's broader impact on the attempts of its mentally retarded participants to achieve some level of greater independence.

TABLE 1

DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS OF RESEARCH POPULATION.

		Experimentals	Controls
Median Age in years		22.0	23.5
Gender: % Male		50.0	55.5
Ethnicity:	% White	53.7	55.5
	% Black	31.5	33.3
	% Hispanic	13.0	11.1
	% Other	4.8	----
Median Reading Level		4.5	4.6
Median Math Level		4.3	3.9
*Level of Retardation:	%"Moderate"	4.1	2.0
	%"Mild"	45.8	42.2
	%"Borderline"	50.0	55.5
% Receiving Public Subsidy		53.2	48.0
Previous Jobs Held:	% in Private Sector	41.6	45.2
	% in Public Sector	22.4	20.2
	% in Private Nonprofit	11.2	7.7
	% in Sheltered Workshop	23.0	24.4
	% in Other Training Program/School	1.9	2.7

Chi Square: differences between experimental and control distributions are not significant.

*Because a variety of different tests were used to assess respondents' I.Qs, we felt it more appropriate to report the proportion of each group falling into different I.Q. levels rather than averages or medians. "Bordorline" refers to IQs between one and two standard deviations below the mean (70-84); "mild" refers to two and three standard durations (55-69); and "moderate" refers to three and four standard deviations (40-55). These specific scores are based upon the Wechsler I.Q. Test, and vary slightly when other tests are used.

The research interviews were, of course, voluntary. Because the initial six-month interview was rather extensive, some members of each research group declined to participate; a few were initially difficult to reach or failed to return calls. Nevertheless, ninety percent of each group agreed to participate in the face-to-face interview (54 experimentals and 54 controls). Subsequently, all but one of the 120 members of the research population were successfully contacted at twelve months; therefore, the data we report on employment one year after intake into the research include virtually the entire original sample. However, because the length of time between research intake and the last follow-up contact varied for each respondent, employment data could be collected fifteen and eighteen months after intake on only a part of the sample. The 120 referrals assigned at random to the experimental and the control groups came to Job Path over a seven month period; thus, the final research interview generated data on 103 subjects for whom fifteen months had passed since their intake and on 61 subjects for whom eighteen months had passed.[3] Despite the decreasing size of the sample on which longer term follow-up data were collected, the random design is not compromised because experimentals and controls entered the research population at the same rate.[4]

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[3]Employment data on 27 members of the research population for whom twenty-one months had passed since intake were also collected; because of the very small number, these data are only suggestion.

[4]An additional factor contributed somewhat to the attrition: the delayed entry of some controls into Job Path after expiration of the one year subsequent to their initial referral and research assignment. Consequently, data on six percent of the controls were not usable at fifteen months as were ten percent at eighteen months.

The Research Population: Social and Demographic Characteristics

What was Job Path's client population during the demonstration year? The social and demographic characteristics of the research population reflect the types of individuals initially referred to and selected for Job Path.[5] This description is based upon data obtained from forms submitted by the agencies that referred clients to Job Path, and from the six-month interviews conducted by the Research Department. Where possible, researchers verified all self-reported data.

As reflected by the research population, almost two-thirds of Job Path's applicants in its first year (65%) were referred from sheltered workshops for the mentally retarded where their experience involved primarily piecework at pay below minimum wage. The remaining third (35%) were referred by a variety of other agencies, most commonly the Board of Education (22%). Those referred from the Board of Education had been in special classes for the mentally retarded, and they reported relatively little consistent employment (in or out of sheltered workshops) after completing or leaving school.

Job Path applicants, as they appear in the research population, are cognitively limited in ways likely to affect their ability to gain independence through successful competition in the labor market. Over a third (36%) read below a fourth grade level; although the reading levels varied considerably (e.g., one-seventh had reading levels at or above seventh grade), the majority were low (the median being 4.5). Similarly, the median math level

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[5] Job Path's current population of mentally retarded adults does not differ significantly from those who entered the program in its first year in terms of basic social and demographic characteristics. More of them, however, have emotional problems as a secondary disability than was the case in the first year. They appear therefore, to be a somewhat more difficult population to serve.

was 4.1; although these scores also varied, they varied less than the reading scores (e.g., eight percent had a math level above 6th grade and only one person was at the seventh grade level).[6] The range of available I.Q. scores for this population also suggests cognitive handicap. About half (53%) had recorded scores falling into the "borderline" category; 44 percent fell within the "mild" category; and three percent within the "moderate" range.[7] The tendency in current psychometric and mental retardation literature is to qualify the importance of I.Q. per se as a handicap and to emphasize the importance of social adaption (McClelland, 1974; Brolin, 1976). It should be noted, therefore, that the agencies referring clients to Job Path reported (both on applications forms and in research interviews) that these individuals needed most help in areas of employment related behavior involving social interaction (e.g., "ability to work as a team member" and "ability to relate to the public through work").[8]

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[6]The reading and math levels reported here reflect respondents' scores on tests given during their school years. These scores may not have reflected the level of their current ability; without the encouragement and stimulation of school, they may not have exercised these skills routinely.

[7]Borderline intelligence (formerly referred to as borderline retardation) refers to the highest level of intelligence among participants, I.Q.s between one and two standard deviations below the mean (70-84). Mildly retarded refers to I.Q.s between two and three standard deviations below the mean ((55-69). Moderately retarded refers to I.Q.s between three and four standard deviations below the mean (40-55). These specific I.Q. scores are based upon the Wechsler I.Q. Test and vary slightly when other I.Q. tests are used to measure intelligence.

[8]Robinson and Robinson (1965) also make the important observation that the extent to which an I.Q. in a particular range will be an actual handicap varies with the complexity of the social structure. They point specifically to New York City, noting that here an I.Q. of 91 or 95 might be a handicap while in a nonurban area of another state, with its far less complex social structure, an I.Q. of 65 might not.

The Job Path applicants also exhibit other (non-cognitive) handicaps that complicate their ability to obtain competitive employment. Physical disabilities such as speech problems, seizures, and cerebral palsey affect about half of the population and, in fact, tend to occur disproportionately among the mentally retarded (Loub, 1978). These disabilities may create work related restriction such as difficulties lifting, using one's hands, or standing and walking for prolonged periods.

Finally, many of those referred to Job Path face additional employment handicaps stemming from the disadvantages associated with minority ethnic status (46%), residence in economically depressed neighborhoods of New York City, and youth (50% are 22 years old or younger).[9]

These handicaps suggest a population likely to face substantial employment difficulty. Data on Job Path's applicants' previous work experiences confirm this expectation. While nine out of ten applicants in the research population had held competitive jobs prior to their application (the average number held by the group being 1.5), these jobs had been of brief duration. Three out of ten competitive jobs (29%) had lasted less than one week and five out of ten less than three months; 14 percent had lasted more than one year.[10] When respondents were asked why their jobs had been so brief, their replies suggested they had been able to secure only jobs that

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[9]While the linkages between mental retardation and socio-economic status are beyond our discussion, it might be noted that a recent review of the literature suggests that more than 80 percent of those labeled mentally retarded come from the lower socio-economic strata (Brolin, 1976).

[10]In contrast, sheltered workshop positions were held somewhat longer by this population. While almost half (46%) had lasted less than a month, 53 percent had lasted over six months and 30 percent more than a year.

are typically short-term (i.e., 44% of the jobs were "temporary" or "summer only;" 22% were jobs from which they were "laid off"). Where respondents' work performance appeared to be a factor in the termination of these previous jobs, the common problems they reported involved speed, attendance and interpersonal relationships.

As a consequence of their handicaps and employment instability, and the earnings disadvantage associated with those conditions, it is not surprising that most Job Path applicants are financially dependent.[11] Most of the research population (78%) lived with their families (parents or other close relatives). Forty percent of those interviewed reported receiving direct financial help (money) and 36 percent reported receiving other types of material help from the families they lived with; 13 percent reported receiving financial help from other relatives. In addition, half were receiving some form of public income subsidy. Supplementary Security Income, the most common source, subsidized the income of 70 percent of those receiving public assistance. Two-thirds of the respondents were receiving public medical assistance, but only eight percent were purchasing food stamps.

In summary, the typical applicant referred to Job Path is mentally handicapped and multiply disadvantaged vocationally. The overwhelming majority had received some type of vocational training (most often in sheltered

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[11] While neither competitive jobs or positions in supported workshops provided the research population with sufficient earnings for self-support, the competitive jobs they obtained tended to pay more than positions in sheltered workshops (though, of course, the latter tended to provide income over a longer term). Whereas 86 percent of the positions in workshops paid weekly earnings of less than $30, this was the case in about one third of the previously held competitive jobs (32%). In contrast, over 40 percent of these competitive jobs paid over $75 a week.

workshops or in schools) and had been employed in one or more competitive jobs, but had not been able to retain such jobs. It is to Job Path's impact on these individuals' ability to achieve some independence through securing and maintaining unsubsidized full-time employment that we now turn.

Job Path's Impact on Work Behavior: Unsubsidized (Competitive) Employment

Job Path's major goal is to use support work as a transition to full-time, competitive employment for mentally retarded individuals many of whom have been in sheltered workshops. In order to assess Job Path's impact, the work experience of those who participated in the program is compared with the experience of the equivalent group of controls who followed more traditional rehabilitative routes. As discussed above, data were obtained from interviews with experimentals and controls and were verified when possible. The overall findings are encouraging: the unsubsidized, competitive employment of both the experimental and the control groups increased over the twelve to eighteen months of follow-up; however, those who participated in the supported work program were significantly more successful in obtaining nonsubsidized employment than were controls, and the competitive jobs they obtained were of significantly higher quality, that is, more were full-time, had higher salaries and more substantial fringe benefits.

Comparing experimentals and controls six months after their referral to Job Path and their assignment to the research population, 44 percent of those randomly assigned as Job Path participants (24 out of the 54 on whom we had data at this point in time) had completed the supported work program and were employed in full-time competitive (non-subsidized) jobs. For most, this job was the last position they had held as a program trainee—the supported

work employer had hired them as a full-time, unsubsidized worker. In contrast, fewer controls (24%, or 11 out of 54) had secured full-time competitive jobs during the six months after their application to Job Path and their assignment to the research population. However, an additional 13 controls (24%) had secured part-time jobs in the competitive labor market. Thus, in the first six months after their entry into the research, both groups began to move out of subsidized employment (either out of supported work or out of sheltered workshops) and into competitive jobs: a total of 44 percent of the experimentals and 49 percent of the controls. However, supported work was significantly more successful than traditional rehabilitation routes in helping mentally retarded individuals obtain full-time (and, as we shall show below, better quality) jobs.

Beyond the first six months, the number of experimentals securing competitive jobs continued to rise and to do so more rapidly than did the number of controls. By twelve months after intake into the research, 63 percent of the experimentals completed Job Path and were working at nonsubsidized positions, all but one full-time (this one person had been terminated from Job Path and placed in a part-time job by another agency). In contrast, several controls had lost jobs acquired earlier so that the proportion of the control group competitively employed at twelve months had dropped to 35 percent, 65 percent of whom were in full-time jobs. Furthermore, although the average number of weeks worked by the larger number of employed experimentals by the end of twelve months (25) was not significantly higher than the average number worked by the smaller number of employed controls (22), the average number of weeks worked full-time by

experimentals (25) was significantly greater than those worked full-time by controls (17).

This employment situation at twelve months was partly a function of controls moving out of subsidized employment (i.e.,workshops) somewhat more slowly than experimentals were moving out of Job Path. While 46 percent of the experimentals and 44 percent of the controls had worked at subsidized positions for less than six months, 31 percent of the experimentals and 47 percent of the controls remained in subsidized employment for over ten months. Fifteen months after intake, significantly more controls than experimentals were still in subsidized positions (22% compared to 4%), although by eighteen months, the difference between the two groups was no longer significant (14% and 9%).[12]

These employment data suggest that some mentally retarded individuals move out of sheltered workshops and into the competitive labor market even without supported work. However, as our data on nonsubsidized employment show, supported work contributed significantly to both the rapidity and the overall success of this transition. At fifteen months after intake, 61 percent of the experimentals as compared to 30 percent of the controls were employed at nonsubsidized jobs. At 18 months, these proportions had increased to 72 percent of the experimentals as compared to 42 percent of the controls, a difference that is statistically significant. Furthermore,

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[12]Recall that the number of experimentals and controls for whom we have fifteen months of data is less than the full 120 original research subjects because of staggered intake; there is fifteen months of data on 53 experimentals and 50 controls and eighteen months of data on 33 experimentals and 28 controls. Although the randomness of the design is not compromised, the sample size is quite small.

employed experimentals were in full-time competitive jobs more often than were employed controls. Fifteen months after intake, only one employed experimental was working part-time compared to almost half (46%) the employed controls. The eighteen month data suggest the stability of this pattern: all the employed experimentals were competitively employed full-time compared to less than half (42%) the employed controls.

The twenty-one months of data available on twenty-seven experimentals and controls suggest a continuation of this pattern: 80 percent of the 15 experimentals and 50 percent of the 12 controls were competitively employed after almost two years, although this comparison must be treated with caution because of the very small numbers.

The success of Job Path's supported work model for helping its participants make the transition to the regular world of work by achieving full-time steady employment in the competitive marketplace as compared to the more traditional routes used by the controls is further demonstrated by comparing the quality of the jobs obtained by both groups. Salaries for experimentals employed at nonsubsidized jobs were higher than those for employed controls during the first six months after intake, at twelve months after intake, and at fifteen months (whether one compares the overall salaries of all employed members of each group or only those employed full-time). The average weekly salary of employed experimentals at fifteen months after intake was significantly higher than the average for controls ($146 compared to $117). This difference is primarily accounted for by the higher salary range for experimentals than for controls (up to $228 per week for experimentals compared to a top of $154 for controls), although the

bottom of the range was similar for the two groups ($118 and $116). This favorable comparison continued at eighteen months, although the difference between the groups was somewhat reduced.

Finally, the unsubsidized jobs secured by the experimentals through their participation in Job Path were significantly different from those obtained by controls when one compares the benefits associated with these positions. As Table 2 indicates, at twelve, fifteen, and eighteen months a greater proportion of the jobs at which experimentals were employed provided medical and dental benefits, Workman's Compensation, paid sick days and paid vacations than did the jobs held by controls.

Thus, not only did supported work provide more mentally retarded adults with a chance to secure more independent lives by helping them obtain and retain competitive employment than did more traditional rehabilitative routes, but the positions they secured were of higher quality. Although a sizable minority of the controls moved out of subsidized employment without benefit of supported work (that is, they left the sheltered workshops), they did so more slowly than did those who participated in Job Path, and the jobs they entered in the competitive labor market were less likely to be full-time; they were also lower-paying and of lower quality than the jobs obtained by the supported work participants. The trends in the data are clear and consistent over time (that is, through eighteen months and, with somewhat less assurance, through twenty-one months after intake).

Nevertheless, we must recognize that because this mentally retarded population remains employment-handicapped despite this transition, positive initial outcomes, even over a period of several years, may be difficult to

TABLE 2

PERCENT OF EMPLOYED RESPONDENTS WHO RECEIVED INDICATED BENEFITS TWELVE, FIFTEEN, AND EIGHTEEN MONTHS FOLLOWING INTAKE

Type of Benefit	at 12 months		at 15 months		at 18 months	
	Percent of employed experimentals (N=37)	Percent of employed controls (N=21)	Percent of employed experimentals (N=36)	Percent of employed controls (N=15)	Percent of employed experimentals (N=24)	Percent of employed controls (N=12)
Medical/hospitalization	76	19	81	40	79	25
Medical/doctor's visits	70	19	75	27	71	17
Dental	51	19	56	20	63	8
Sick Days	78	19	78	34	75	25
Paid Vacations	81	14	83	34	75	25
Workman's Compensation	78	42	83	46	83	42

sustain over the long run. This is especially so when labor markets undergo severe contractions as at the present time. We will return to this important issue at the end of the paper.

Job Path's Impact on Work-Related Skills

The employment data just presented clearly show that Job Path was successful in helping mentally retarded adults make the transition to full-time, relatively good quality competitive jobs, especially when compared to traditional vocational rehabilitation mechanisms. Some of this impact is a direct function of Job Path's concentrated job development efforts and its capacity to provide inexperienced workers with on the job supports while they are making the initial transition to real work settings. However, the research also sought to examine whether participation in the supported work program had any measurable impact on trainees' work-related attitudes, knowledge and behavior. Most people concerned with rehabilitation (and with job performance in general) recognize that a worker's understanding the complex social aspects of the work role is often at least as important to his or her performance as are cognitive abilities, and it is also central to job retention once an individual has been placed (Neff,1968; Vroom,1964; Brolin,1976). In order to assess whether Job Path encouraged participants' increased understanding of these subtleties, comparisons between experimentals and controls were made using data from the personal interviews conducted with 108 research subjects at approximately six months after intake. If experimentals' understanding and knowledge of the workplace is better well-developed than that of controls, it suggests that supported work

has a positive effect on their potential for success in the competitive marketplace apart from its impact on their initial placement efforts.

Understanding of appropriate work-related behavior

Understanding when it is appropriate to stay home from work, knowing what to do if you have problems on the job, and understanding the appropriate ways to interact with others on the job are aspects of successful job performance. Comparison between Job Path trainees (experimentals) and controls suggest that the program has been able to help trainees better understand appropriate work-related behavior. Table 3 presents the categories of behavior about which research subjects were questioned by research interviewers and their responses.[13]

Job Path trainees appear to understand better than do controls when it is appropriate to stay home from work (Table 3A). They were more inclined than controls to say that one should go to work if feeling tired, upset about

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[13] In this phase of the study, we were interested in developing quantifiable scales that could be used to measure the attitudes, feelings and knowledge about work and related life areas of our research subjects. In the absense of existing instruments, we conducted exploratory, in depth interviews with 22 mentally retarded individuals similar to those in the research population, including members of the Vera pilot program and others who were eligible but unable to participate for a variety of reasons. These interviews gave use an opportunity to try out various ways of phrasing questions and administering attitudinal scales to mentally retarded respondents. Gradually, a system was developed whereby respondents were able to answer questions by pointing to one of four index cards on which the following words were written "YES" (in big letters); "yes" (in small letters); "Yes & No;" "no" (in small letters) and "NO" (in big letters). In the course of these preliminary interviews, it became clear that, after a brief instruction period during which the respondent was shown how to use the cards to answer and to practice using them with a series of simple questions, this method could enable us to secure quantifiable data about the attitudes, perceptions and feelings of mentally retarded respondents.

TABLE 3

ATTITUDES ABOUT WORK ATTENDANCE, DEALING WITH PROBLEMS AT WORK,
and INTERPERSONAL RELATIONS AT WORK

ATTITUDES ABOUT:	RESEARCH ASSIGNMENT	Proportion of Respondents Endorsing Designated Categories:					Significant X^2 (*)
		Definitely yes	Maybe yes	Sometimes yes; Sometimes no	Maybe no	Definitely no	
A. ATTENDANCE							
Should you go to work if you feel tried?	E	80	6	4	0	10	*
	C	64	13	2	2	19	
Should you go to work if you're upset about your job?	E	52	13	17	4	15	*
	C	34	13	15	8	30	
Should you go to work if your parents want you to stay home?	E	79	4	6	4	6	*
	C	55	13	6	8	19	
Is it OK to miss work and not call your boss?	E	--	--	2	8	90	*
	C	2	2	9	8	7	
Should you go to work if you are sick?	E	4	4	6	8	78	*
	C	11	--	--	23	61	
Should you go to work if you want to see your friends?	E	78	6	2	--	14	
	C	60	23	4	2	11	

Continued

TABLE 3 Cont.

B. PROBLEMS AT WORK:							
If you had a problem would you:							
Leave it for later?	E	12	6	8	14	60	*
	C	25	4	6	19	47	
Not go back to work until you can figure it out?	E	10	--	6	10	74	*
	C	15	8	13	17	47	
Ask your Supervisor?	E	92	2	6	--	--	*
	C	85	11	--	2	2	
Ask your Co-workers?	E	58	12	16	4	10	
	C	57	9	6	6	23	
Talk to your counselor?	E	66	12	6	4	12	
	C	65	15	10	4	6	
C. INTERPERSONAL RELATIONS AT WORK							
Appropriateness of:							
Asking a Supervisor to explain more slowly	E	88	2	2	2	6	
	C	17	13	2	4	4	
Trying to hide mistakes	E	12	4	6	8	70	
	C	13	2	8	15	62	
Volunteering to do extra work	E	88	6	2	--	4	
	C	85	7	--	4	4	

continued

TABLE 3 Cont

Displaying anger with a supervisor	E	16	4	6	12	62	
	C	21	6	9	11	53	
Not socialiing with co-workers at all	E	26	2	10	12	50	*
	C	29	10	17	15	29	
Leaving a job after being given more work than others	E	—	2	8	12	78	*
	C	6	4	6	21	64	
For Supervisor to ask worker to stop talking	E	90	8	2	—	--	*
	C	72	13	--	4	11	
Of saying "no" to a co-worker	E	34	14	6	14	32	*
	C	19	11	8	9	53	

work, or if one's parents want you to stay home. They were also more likely to view missing work and not calling in as inappropriate behavior. However, because experimentals were also significantly more likely than controls to say that it is appropriate to miss work when one is sick, it would appear that supported work may help trainees learn specific work norms and not simply to adopt a strong value position about the importance of going to work regularly.

Because individuals who are mentally handicapped may be especially likely to encounter difficulties on their jobs, it is important they understand the appropriate course of action when problems arise. Table 3B suggests that experimentals have a better understanding of how to do this than do controls. They were less likely to view it as appropriate to respond to problems by leaving them for later or by leaving work, and were significantly more likely than controls to be certain that asking supervisors for help is appropriate. They were also somewhat more ready than controls to view it as appropriate to ask co-workers for help.

In order to further assess their understanding of appropriate work-related behavior, interviewers read each respondent a series of vignettes describing interpersonal issues arising on jobs. Table 3C presents the responses of the experimental and control groups.

In some areas, individuals in both groups were similar in their assessments. For example, most felt it was appropriate to ask a supervisor to explain things more slowly; that it was inappropriate to hide one's mistake from one's supervisor (in the hope it would not be found out) or to display anger toward one's supervisor; and that it was appropriate for a worker who

finishes his work early to ask for more work. There were, however, differences between the experimental and control groups: experimentals were likely to view socializing with co-workers as more appropriate than were controls; to view leaving a job because one was given more work than others as less appropriate; and to view it as appropriate for a supervisor to tell a worker to stop talking. Experimentals were also significantly more likely than controls to report they would have trouble saying "no" to a co-worker if asked to do something not related to the job.

Knowledge about specific aspects of employment

In contrast to differences in their understanding of appropriate work-related behavior, there were virtually no significant differences between experimentals and controls in their cognitive knowledge about specific items of information related to employment. Although knowing how to find a job is an important skill in the competitive labor market, there were no differences between those who had participated in Job Path and those in the control group. Similarly, there were no differences in their knowledge about behavior during job interviews, or in what they knew about specific dimensions of jobs including taxes, unemployment insurance, sick days, and fringe benefits. The level of knowledge both groups had varied from item to

item, indicating some areas of potential problems for all of them as informed employees.[14]

In conclusion, supported work (at least Job Path) does not seem to increase participants' concrete job-related information, but it does appear to have an impact on helping mentally retarded individuals develop an understanding of appropriate job-related behavior that may facilitate their adjustment to work in competitive jobs. This outcome, in conjunction with the generally better quality of their jobs, makes it far from surprising that experimentals expressed more positive reactions to their jobs than did controls. As indicated in Table 4, experimentals at six months were not only significantly more likely to prefer their current job to other jobs but also, when compared to controls, they felt their work was less boring and they were less nervous and less angry about their jobs. Both groups, however, felt positive about the importance of the work they were doing and thought they were doing a good job.

Job Path's Impact on Independent Lifestyles, Stress and Self-Image

A final aspect of the research was to explore changes in several selected psychological and lifestyle patterns that might be related to Job Path's impact on helping mentally retarded adults obtain employment in

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[14]For example, only one out of four knew what sick days were and about one out of five understood what fringe benefits were. In contrast, almost half understood unemployment insurance and 70 percent could describe taxes to the interviewer. On another level, when asked what they would say if asked by a perspective employer why they should get the job, the most common response from both experimentals and controls was the general statement "because I can do the job;" only one out of ten said they would mention specific qualifications they had for the job.

TABLE 4

ATTITUDES ABOUT PRESENT JOB*

Proportion of Respondents Endorsing Designated Categories:

ATTITUDES	RESEARCH ASSIGNMENT	Definitely yes	Maybe yes	Sometimes yes; Sometimes no	Maybe no	Definitely no	Significant X^2 (*)
Preferences for present job	E	63	NA	NA	NA	37	*
	C	35	NA	NA	NA	64	
Is your job boring sometimes?	E	12	19	29	5	36	*
	C	24	30	12	3	30	
Are you nervous about your job?	E	16	5	7	7	65	*
	C	18	12	12	27	30	
Are you angry about your job?	E	5	2	16	14	63	*
	C	12	15	15	18	37	
Are you happy about your job?	E	68	7	16	--	9	
	C	52	18	15	9	6	
Is the work you do important?	E	81	9	7	2	5	
	C	76	15	6	--	3	
Are you doing a good job?	E	84	9	2	2	2	
	C	70	24	3	--	3	

* Includes those working at competitive jobs, training jobs, volunteer jobs or workshops.
NA: Not applicable; response options dichotomous.

regular job settings. The limitations of these analyses are several; the most important is the short timespan covered by the data. Measures were taken at six months after intake. As a result, many of the experimentals had not yet completed the supported work program and relatively few controls were competively employed.

Despite the short follow-up period, significant differences consistently emerged between experimentals and controls on various indicators of social, psychological and financial independence. Job Path apparently encourages a pattern of greater independence. For example, experimentals were more likely than controls to report having a key to their place of residence, staying out as late as they want and leaving their place of residence whenever they want. Experimentals were also more likely to report that they and not others decide how they will spend their free time.

Experimentals' somewhat greater financial independence is suggested by the fact that they were less likely than controls to be receiving financial help from parents or other relatives, or to report receiving some form of public financial or medical subsidy. They were more likely than controls to report having a bank account, making payments by check, and making their own decisions about how to spend their earnings. Experimentals reported they were saving money more often than did controls, and among those who were saving money, experimentals were more likely than controls to be saving for (and to want to save for) items involving long-term planning, such as their own residences, marriages or vacations. In contrast, controls who were saving money were more likely to be saving for necessities and small luxuries.

As expected, given the location of this program in New York City where the lack of low-cost rental housing is legendary, most experimentals and most controls (69%) were living with one or more parents rather than on their own (or in group residences). Researchers had originally thought that the transition to full-time competitive employment as a result of Job Path participation would lead to increased tension in the parental household as experimentals felt (and possibly behaved) more independently; this does not appear to have happened. In fact, experimentals reported being less nervous, less angry and happier at home than did controls. Possibly the pressures of beginning employment lead Job Path trainees to become somewhat closer to and in need of support from relatives, at least early on.[15] Although there were indications that experimentals felt more general stress than did controls (probably as a result of their first experience with full-time employment of significant duration), this did not manifest itself in increased interpersonal tension at home.[16]

Neither experimentals nor controls reported encountering many problems in their daily lives coping with cognitive processes such as writing, doing numbers or reading. Experimentals, however, were significantly more likely than controls to report that they had difficulty getting other people to

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[15]More experimentals than controls reported getting some help from their mothers in taking care of their finances and in deciding whether to go to work; and more experimentals than controls reported going to new places with their parents.

[16]Respondents were asked about concrete phenomena that are commonly used indicators of stress. Trainees were significantly more likely than controls to report having trouble getting up in the morning and to report having headaches. On the other hand, they were less likely to report being bored.

understand what they meant, telling time, and getting lost on the subway. These differences are probably related to the greater demands placed on them by their employment in the competitive marketplace. Whether these are temporary problems resulting from their initial experiences working in regular jobs or continuing phenomena cannot be determined from these data.

Regardless of whether these various stresses are of short or long duration, they do not seem to have affected Job Path participants' capacity to sustain competitive employment. As we have already indicated, the trend in their unsubsidized employment is clearly toward increased employment, and over the course of research follow-up, only three of the experimentals placed in competitive jobs by Job Path (5% of the total group) lost those full-time jobs. In addition, despite such stresses, the measures used by the research to tap respondents' self-images (which were relatively primitive but did include such things as whether they reported liking themselves, whether they worried a lot, whether they were proud of themselves and whether they thought they were dependable) indicated that the majority of experimentals had favorable views of themselves. However, their greater success at securing competitive employment and better quality jobs than controls did not encourage better self-images, at least not during the first six months. Longer range research and more sophisticated measures would be needed to know whether experimentals acquire more positive self-images than controls as the amount of time they spend in competitive employment lengthens.

Their friendship patterns underwent an interesting change. For most people, working has an impact on choice of associates. Thus we expected trainees to begin losing touch with friends in sheltered workshops, and to

want to and actually make friends with people at their current workplaces. Indeed, some signs of such a shift in associates appeared within the first six months.

For both experimentals and controls, neighborhoods and schools (in most cases, special education classes) remained the most frequent source of friends, although individuals in both groups reported beginning to lose touch with some of their school friends. Generally, however, experimentals were more likely than controls to have lost touch with old friends and to have made new ones, and they were significantly less likely than controls to have close friends. Controls seemed to be gravitating towards a neighborhood-based friendship network: their close friends were most often people they had met in their neighborhoods, including their newer friends and those people with whom they'd like to be better friends. In contrast, experimentals seemed to be gravitating towards a work-based friendship network: although their close friends were still most often people they had met in school, they were more likely than controls to report having close friends whom they had met at work; their newer friends (and those they expressed an interest in being friendlier with) were most often people they had met at work (and, to a lesser extent, at Job Path). Experimentals also reported more often than controls that they had lost touch with people they knew at sheltered workshops and, to a somewhat lesser extent, with people they knew from their neighborhoods.

Along with this change, there is some indication that, at least in those early months, the new work-based friendship circles into which experimentals were moving were less close than the neighborhood-based friendship

controls were developing. Experimentals who had made new friends were less likely than controls who had done so to report seeing the people they'd met recently in contexts other than the one in which they'd met. The types of activity experimentals reported engaging in with their new friends suggest less personal closeness than the activities reported by controls in response to the same questions. Experimentals reported more often than controls eating lunch at work, talking on the telephone, and talking at work with their new friends. Controls who had made new friends, on the other hand, reported more often going to each other's house, going to the movies, going to parties, and "hanging out" with them. We cannot be sure whether, as time goes on, the work-based friendship networks experimentals seem to be developing will become closer and spread to non-work-related activities or whether they will remain primarily located in and around the workplace. This would be interesting to know, particularly because the experimentals' work-based friendships appear to be less often with other mentally retarded individuals than are the neighborhood-based friendships of the controls.

Conclusions

The design of Job Path was predicated on the assumption that for some mentally retarded individuals regular (nonsheltered) jobs represents "the least restrictive environment" for daily living and that their participation in normal work roles helps foster adult independence. This demonstration project's first year provides evidence that a supported work model that involves real work assignments, graduated demands, and firm supervison combined with support, can be an effective rehabilitative strategy. The program outcomes, as measured by the research reported here, suggest that

this approach can successfully structure a transition for some handicapped workers from atypical work roles in sheltered, subsidized settings to regular, unsheltered jobs in the competitive labor market. The interview data suggest further that this successful transition includes helping mentally retarded adults improve their understanding of the behavioral complexities inherent in normal work roles. The data also provide some tentative evidence that initial participation in regular job settings has implications for other work-related aspects of handicapped individuals' lives that encourage their increased independence as adults.

However, providing a rehabilitative mechanism that can make this important transition successful for both the mentally retarded worker and the employer is only part of the overall process. The other major part is developing the training sites and the unsubsidized jobs sites upon which this important transition depends. Even during Job Path's first year (1978-1979), this task required considerable effort in New York City. The most striking finding of a systematic examination of Job Path's unusually complete job development records is that to develop 71 training sites and 34 nonsubsidized jobs, program personnel had to contact 646 potential employers and make an estimated 2,020 telephone contacts and 818 mail contacts that lead to 215 personal meetings with employers at prospective sites. The data, therefore, portray the job development process as an inverted pyramid with an extremely wide top and a relatively narrow base: one third of the 646 firms contacted resulted in a personal meeting with prospective employers, about a third of which resulted in an actual training site; half of the training sites later hired mentally retarded supported workers on a permanent, unsubsidized basis.

Further analysis of this process reveals that job development in the private sector involves substantially more effort than in the public sector. This is the case whether the effort is measured in terms of the total number of firms contacted, the number of telephone calls per firm, or the number of mail contacts per firm.

As labor market conditions in New York City and elsewhere have tightened, Job Path's job development efforts have become progressively even more difficult in both the private and the public sectors. This is because the number of lower-skilled positions at the entry level has shrunk (even in very large private firms) and because those that remain are sought after by nontraditional groups of unemployed workers and new entrants (including some who might have gone to college previously and some who are college graduates). Job Path's experience demonstrates that many mentally retarded and other developmentally disabled adults can make the transition from sheltered work settings to the normal work world and that they can perform satisfactorily in and retain unsubsidized jobs. The mechanisms to accomplish this are there; the jobs however,are another matter.

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