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ABSTRACT

This paper reports on a longitudinal Model Cities Project at Baltimore, the objective of which was to determine the effectiveness of the process of rehabilitation of handicapped persons residing in the Model Cities area when vocational rehabilitation (VR) counselors assisted by rehabilitation aides were located within such area. The research design consisted of process evaluation and product evaluation. The process evaluation involved a two-part questionnaire and self-rating scale designed for use by the project counselors and aides. Statuses 00 (Referral), 10 (Plan Development), and 26 (Closed Rehabilitation) were selected for product evaluation based on the caseloads. Results of the questionnaire show the following: (1) aides are productive and their positions should be legally established and expanded; (2) aides' roles should be clearly delineated; (3) structured programs should be developed for their training and upgrading; and (4) they should have job security to improve their morale. Product evaluation shows that while aides require specific training in casefinding methods and in developing referral sources, they do render valuable help in many areas. The overall evaluation indicates that the project has succeeded to a degree in demonstrating an effective way of rehabilitating disabled residents of a large metropolitan city. (RWP)

EFFECTIVENESS OF PARAPROFESSIONALS IN THE REHABILITATION PROCESS[1]

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The Model Cities Project at Baltimore was a three-year study, beginning November 1969 and ending October 1972. The purpose of this project was to demonstrate a feasible way of rehabilitating, by successful placement on jobs, the handicapped persons living in poverty-stricken areas of the inner-city of Baltimore. Essential in this endeavor were the following: (1) partial decentralization of the large vocational rehabilitation district office serving metropolitan Baltimore, (2) use of paraprofessional personnel (rehabilitation aides) as adjuncts to counselors, and (3) implementation of a training program for rehabilitation aides.

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The primary consideration for decentralization of the district office was that, by locating VR counselors and services within the clients' neighborhoods, contacts could be made with the clients frequently according to their needs. Basic to the principle of providing rehabilitation aides as adjuncts to counselors, is the belief that in the matter of the client-counselor relationship the indigenous aide can establish rapport better than the VR counselor. Then, too, a prime factor identified as an obstacle to prompt delivery of rehabilitation services to many disabled persons residing in the inner-city neighborhoods is paucity of staff. Therefore, the employment of indigenous aides was designed to accomplish three goals: (1) to make the VR process more acceptable to the client, (2) to decrease the number and length of time lags between services for a particular client, and (3) to provide VR services to a greater number of eligible clients than had been previously possible.

The indigenous counselor aides offer a unique opportunity for rehabilitation agencies to begin work with the disadvantaged inner-city residents. It seems that their use could effectively bridge the gap between the professional and the client from the ghetto. Grosser (1968) describes the indigenous nonprofessional as "having mutual interests and common causes with program participants; moreover, he is able to communicate freely because, like them, he is poor, resides in the neighborhood and shares minority group status, common background and language."

With the help of the aide who can perform many of the noncounseling activities, the counselor can perfect his counseling skills and can approach the client's problems in depth. By using an aide, the counselor is able to concentrate fully on what his job title calls for, counseling. Indeed, the

American Personnel and Guidance Association (1967) and the American Rehabilitation Counseling Association (1968) while suggesting a more restrictive role for subprofessional personnel (clerical duties, job development duties, administration and scoring of aptitude tests) appear to recognize the potential value of aides.

In reference to the vocational rehabilitation manpower problem, Patterson (1966) observed that counselors were being asked to perform duties which were not theirs. He stated that the answer to this problem was to develop "subprofessions." Aside from allowing counselors more time to do counseling, some research studies have found that support personnel functioning both independently and under the direction of professional counselors can produce positive results with the clients which may at times be better than results attained by professional counselors (Truax & Lister, 1970).

The Economic Development Act of 1954, and the Manpower Development and Training Act of 1962 stressed the development of the community resources in the ghetto with local participation through Community Action Agency programs. More recently, it has been the Model Cities programs which have been established to revitalize the deteriorating inner cities.

In a 1970 inquiry conducted by the National Rehabilitation Association, only 38 state vocational rehabilitation agencies, out of 88 contacted, indicated that they were using or experimenting with the use of paraprofessional personnel (Baker, 1972). Thus, despite some attempts to move away from the traditional methods of delivering services, the majority of vocational rehabilitation agencies have been reluctant to hire counselor aides or to decentralize their large metropolitan offices.

Research Hypotheses

The specific objective of the project was to determine the effectiveness of the process of rehabilitation of handicapped persons residing in the Model Cities area, when VR counselors assisted by rehabilitation aides were located within such area. The research hypotheses basic to the project were the following:

1. Handicapped disadvantaged residents of the Model Cities area of Baltimore city can more effectively be served by the assignment of rehabilitation counselors to work in the Model Cities area.

2. Rehabilitation aides are helpful in providing services to handicapped disadvantaged residents of the Model Cities area.

The alternative hypotheses, which are the operational statements of the research hypotheses, were as follows:

> When VR counselors are located in the Model Cities area and assisted by rehabilitation aides, they are able to deal with larger caseloads at different phases of the rehabilitation process: Referral (Status 00), Plan Development (Status 10) and Closed Rehabilitation (Status 26) than that handled by the counselors without aides, and also the mean amount of time spent by the former in reaching Closed Rehabilitation (Status 26) is less than that taken by the latter.

Against the above alternative hypotheses, the following null hypotheses were formulated for testing:

1. There is no significant difference in the caseloads at Referral (Status 00) of the VR counselors with aides and the VR counselors without aides.

2. There is no significant difference in the caseloads processed for Plan Development (Status 10) by the VR counselors with aides and the VR counselors without aides.

3. There is no significant difference in the caseloads attaining Closed Rehabilitation (Status 26) with the VR counselors assisted by aides and the VR counselors without aides.

4. There is no significant difference in the mean amount of time spent from Referral (Status 00) to Closed Rehabilitation (Status 26) per client for the VR counselors with aides and the VR counselors without aides.

Method

The research design consisted of two parts: process evaluation and product evaluation. The process evaluation provided a structure for periodic review and evaluation of the project's progress. A two-part questionnaire was developed for this purpose. It was a self-rating scale designed for use by the project counselors and aides in estimating their own effectiveness and time involvement in the different phases of the rehabilitation process.

Statuses 00, 10, and 26 were selected for product evaluation based on the caseloads, as these are considered important checkpoints in the rehabilitation system. The flow chart presented in Figure 1 explains the system in a meaningful way.

Insert Figure 1 about here

Samples

The counselor turnover posed a thorny problem for this project. Indeed, to precisely indentify the effect of contribution made by a particular counselor to a client's attainment of a particular status level was an impossible task. This was especially true when the status was attained with the assistance of two or more counselors. For these reasons, the initial VR counselor

and his replacements at a particular location were defined as a station. In this project the number of clients attaining a particular status was reported by station. The caseloads at different status levels in respect of a VR counselor station provided an index of performance of that station.

Eight VR counselor stations were set up within or in the vicinity of the Model Cities area. Four of the stations were randomly selected as the experimental group with a VR counselor and a rehabilitation aide assigned to each. The remaining four stations constituted the control group, and were each manned by a VR counselor without any aide.

The biographical data of the rehabilitation aides selected for the project are presented in Table 1. The VR counselors met the minimum academic requirements established by Maryland Division of Vocational Rehabilitation (MDVR). This meant that all VR counselors had at least a bachelor's degree.

Insert Table 1 about here

As mentioned earlier, the decision to analyze data about a VR counselor station rather than an individual VR counselor was made to circumvent the problem of the counselor turnover. Fortunately, there was no attrition among the rehabilitation aides. An account of the counselor turnover by VR counselor stations is given in Table 2.

Insert Table 2 about here

Statistical Analysis

As indicated in the null hypotheses, the caseloads at Referral, Plan Development, and Closed Rehabilitation and the mean amount of time required per Closed Rehabilitation provided the basic data for evaluating the significance of differences between the two independent samples - the experimental and the control groups. The Mann Whitney U Test (Siegel, 1956) was used to test these null hypotheses. This non-parametric test was selected because: (a) it is a powerful statistical technique, (b) the conditions of parametric tests (e.g., the assumptions of normality of distribution, homoscedasticity) could not be met, and (c) the sample sizes were very small. An alpha level of .05 was used in determining the significance of the test results.

Results

The Model Cities Project produced two different sets of data. One set of data related to the responses to the two-part questionnaire administered to the VR counselors and the rehabilitation aides. These responses on the perceived roles of the counselors and aides are analyzed and presented below.

1. The overwhelming consensus was that the position of aides was a productive and practical one and should be legally established and expanded for use in the Division of Vocational Rehabilitation.

2. Many indicated the need for more structure or clarification of the specific roles the aides should have.

3. Others were satisfied with the broad flexibility and generality of the aide's role, because it was thus possible to define a particular aide's role in terms of his/her abilities.

4. Many indicated that motivation and quality of performance would be enhanced by greater emphasis on increased training and opportunities for upgrading the position.

5. Some felt that aides were too frequently used for routine errands and too rarely used for casefinding and interviewing.

6. Above all, the need for job security was indicated.

7. Bringing speakers or holding workshops for counselors was considered helpful, if the stress was on techniques of counseling and guiding aides toward professional-vocational upgrading.

The other set of data related to the caseloads at different phases of the rehabilitation process and the mean time required per Successful Closure, representing the performance scores of the experimental and control groups. These data are presented in Table 3, and the results of the Mann-Whitney U Test evaluating the differences between the two groups are shown in Table 4 below.

Insert Table 3 about here

Insert Table 4 about here

Table 4 indicates a significant difference in the caseloads at Plan Development handled by the experimental and the control groups, justifying thereby the rejection of the null hypothesis formulated in this behalf at the .05 level of significance. The same position does not, however, hold good in regard to the other three null hypotheses. In other words, the data do not give evidence which may justify rejecting the null hypotheses regarding the caseloads at Referral and Closed Rehabilitation, and the mean time consumed per Closed Rehabilitation.

Discussions and Conclusions

The results of this demonstration project brought out two different aspects of assessment of the effectiveness of paraprofessionals employed as rehabilitation aides in the programs for rehabilitation of the disadvantaged/disabled residents of the Model Cities area. The two-part questionnaire elicited responses from the VR counselors and aides about their efficacy in the rehabilitation process. The salient points which emerged on an analysis of these responses are as follows:

1. Aides are productive and their positions should be legally established and expanded in the DVR.
2. Their roles should be delineated.
3. Structured programs should be developed for their their training and upgrading.
4. They should have job security to improve their morale.

The basic finding of this subjective evaluation relates to the consensus on the practical utility of the services rendered by the rehabilitation aides. The suggestions enumerated above following this finding are cognate recommendations to boost the efficacy of the aides.

The purpose of the statistical analysis was to evaluate the effectiveness of the project in terms of quantitative measurement of the rehabilitation products, and thus to determine the validity of the self-appraisal by the project participants. The significant difference ($p = .05$) found between the caseloads at Plan Development attained by the experimental and the control groups suggests that the rehabilitation aides provided productive services between the stages of Referral and Plan Development. In other words, they rendered valuable help in the activities starting with the selection and

preliminary investigation of the clients to their rehabilitation diagnosis leading to the determination of eligibility. Perhaps, the aides' best assets for success in this phase of the rehabilitation process were their cultural identity, rapport, and ability to communicate with the clients from the ghetto areas.

In regard to the caseloads at Referral, the experimental and the control groups did not, however, exhibit any statistically significant difference ($p = .17$). This suggests that the rehabilitation aides were not trained in the casefinding methods and in developing referral sources. It is in these areas that they require specific training.

The difference in the caseloads at Closed Rehabilitation and the difference in the mean time spent to reach such Closure from the stage of Referral, which are interdependent, tend to approach significance ($p = .10$). This indicates that the contributions of the aides might have influenced the entire rehabilitation process after Referral. This further suggests that with some training in the concepts about the handicapped the aides may be able to render supplemental help to the counselors in the provision of services, and in the placement and followup process for the clients.

The overall evaluation indicates that the project has succeeded to degree in demonstrating an effective way of rehabilitating disabled residents of impoverished areas of a large metropolitan city. More specifically, the project has demonstrated this feasibility through the successful implementation of the basic essentials assumed for the project: (1) dispersion of VR counselor stations in the Model Cities area, and (2) provision of paraprofessional personnel as rehabilitation aides at those stations. Encouraged

by the results of this pilot study, MDVR has expanded rehabilitation services to the handicapped poor and disadvantaged residents of Baltimore city with the supportive services of paraprofessionals.

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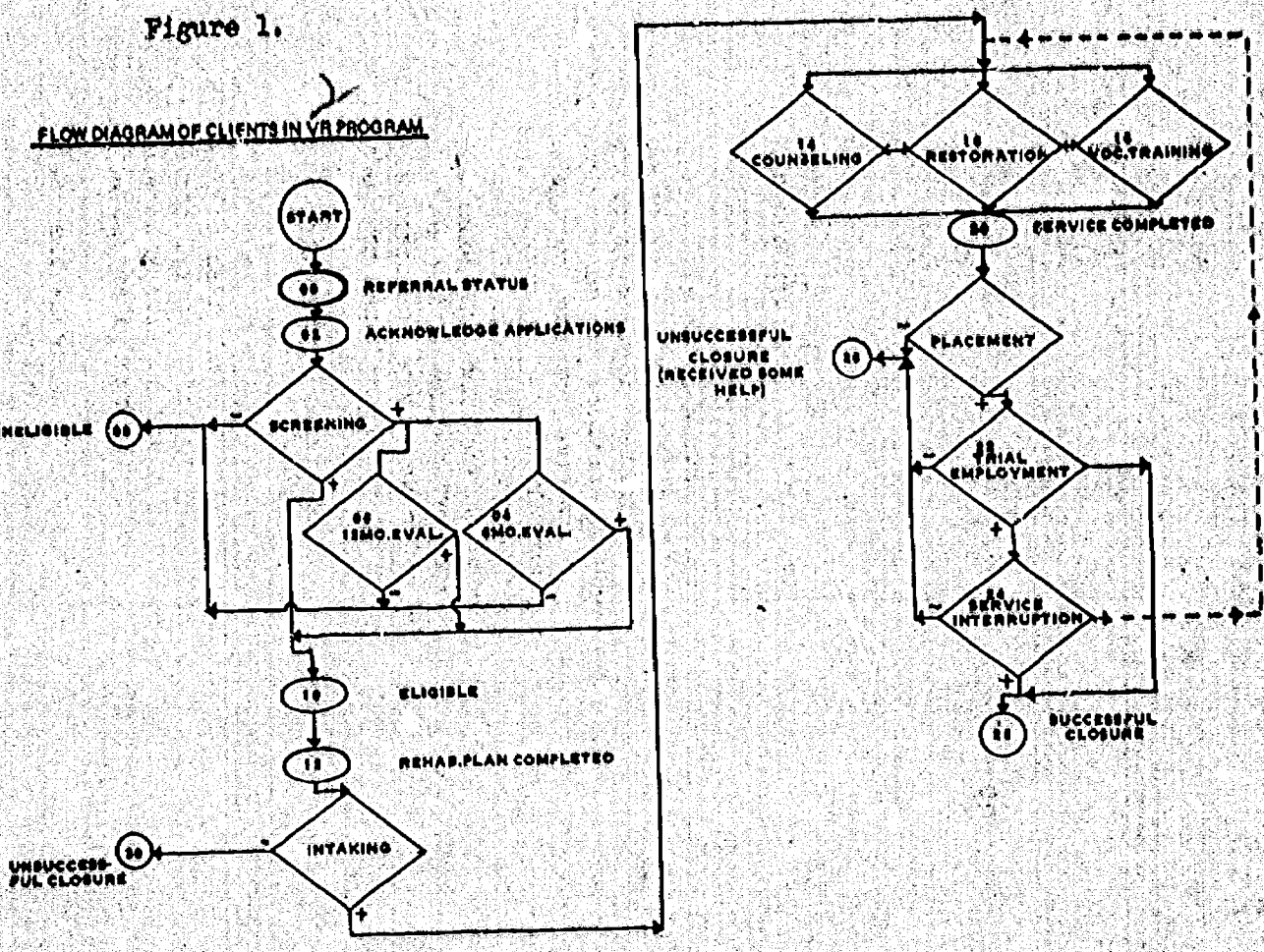
Figure 1.



(Chart developed by Dr. M. S. Tseng of West Virginia Research and Training Center, Institute, West Virginia)

Note.1: The statuses designated by circles are starting or exit points from the process (statuses 08, 28, 30 and 26). Those statuses designated with a diamond shape are points where choices have to be made in the process. All other statuses are designated by oval shapes.

Note.2: When a plus sign (+) is seen, it means that at that point a positive decision has been made to keep the client within the system. When a minus sign (-) is noted, it means that for any number of reasons a client gets routed to a closure status.

[Source: Rehabilitation Tomorrow, 1973, 3(6)]

TABLE 1

BIOGRAPHICAL DATA OF REHABILITATION AIDES

Rehabilitation Aides	Sex	Age	Education Background	Previous Employment
A	F	50	Completed 11th grade	Dietary aide at Sheppard Pratt
B	F	26	Completed 1 year at Baltimore Community College	None
C	M	31	Completed 10th grade	Semi-skilled grinder at American Standard Company
D	M	23	Completed 11th grade	Truckdriver

TABLE 2

COUNSELOR TURNOVER BY VR COUNSELOR STATIONS

VR Counselor Stations	VR Counselors	Months Served on Project
Experimental Stations		
E_1	E	21
	F (Replacement)	15
E_2	G*	36
E_3	H*	36
E_4	I	17
	J (Replacement)	19
Control Stations		
C_1	K	11
	L (Replacement)	25
C_2	M	4
	N (Replacement)	32
C_3	O	6
	P (Replacement 1)	3
	Q (Replacement 2)	27
C_4	R	5
	S (Replacement 1)	26
	T (Replacement 2)	5

*Indicates VR Counselors who continued throughout the project

TABLE 3

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS
ON CASELOADS AND TIME FOR
CLOSED REHABILITATION

VR Counselor	No. of Mos. in Project	No. at Referral (Status 00)	No. at Plan Development (Status 10)	No. at Closed Rehabilitation (Status 26)	Mean Time (Mos.) Required per Closed Rehabilitation (Status 26)
Experimental Stations					
E_1	36	788	585	228	0.16
E_2	36	1,101	746	174	0.21
E_3	36	736	430	152	0.24
E_4	36	1,044	516	118	0.31
	Total:	3,669	2,277	672	
Control Stations					
C_1	36	1,011	536	185	0.19
C_2	36	1,021	370	109	0.33
C_3	36	734	232	38	0.95
C_4	36	705	319	95	0.38
	Total:	3,501	1,457	427	

TABLE 4

RESULTS OF MANN-WHITNEY U TEST
EVALUATING DIFFERENCES
BETWEEN EXPERIMENTAL
AND CONTROL GROUPS

Referral (Status 00)	Plan Development (Status 10)	Closed Rehabilitation (Status 26)	Mean Time per Closed Rehabilitation (Status 26)
U = 4	U = 2	U = 3	U = 3
p = .17	p = .05	p = .10	p = .10