

AN APPRAISAL OF REHABILITATION INDUSTRIES, INC.
THROUGH ANALYSIS OF THE SERVICES PROVIDED
TO ITS FORMER EMPLOYEES

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This is to certify that the
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ABSTRACT

AN APPRAISAL OF REHABILITATION INDUSTRIES, INC. THROUGH ANALYSIS OF THE SERVICES PROVIDED TO ITS FORMER EMPLOYEES

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The purpose of the study was the appraisal of a sheltered workshop to determine how effectively it was functioning in its purpose of providing services to the handicapped through work evaluation, training programs, terminal employment, and returning to competitive employment as many as possible of the handicapped it had served.

The data for the study were collected by means of a pre-service, in-service, and post-service inventory of each of the seventy-five handicapped former employees. Pre-service and in-service data were gathered from records of the sheltered workshop supplemented by information from the records of referring agencies and welfare records. Post-service data were obtained by means of a structured personal interview with each of these former employees who could be contacted.

Analysis of the data was made by comparison of the pre-service and in-service information with the post-service type of placement in terms of employment and non-employment.

Some of the major findings of the research are the following:

No relationship was found between the type of in-service rehabilitation program and the disability and the

type of post-service placement of employment or non-employment.

Disability groups per se could not be meaningfully evaluated in terms of the type of post-service placement because the placement tended to be on an individual basis, related to the uniqueness of the individual case, rather than on a group basis.

When the disability is not taken into account the type of pre-service work experience and in-service work experience for each individual showed little or no relationship to the type of post-service placement.

The higher the educational grade level attained by the handicapped employee the greater was the likelihood of his post-service employment. However, there was post-service employment placement at all levels.

The age of onset of disability showed a direct relationship to post-service placement. Those with the earlier age of onset of disability were more likely to be post-service employed than were those whose onset of disability occurred at a more advanced age.

Those who were younger, between twenty and thirty years of age at the time of their rehabilitative employment, showed a greater degree of post-service employment.

Those whose length of rehabilitation service was short, i.e., one to three months, were more frequently post-service employed than those whose rehabilitative service periods were longer. For the most part the former were the work adjustment and transitional type cases.

Those with less than a two year differential between the age of onset of disability and the beginning of rehabilitative service tended to be more frequently post-service employed. The exception to this positive change differential were those with congenital and early age disability onset, where the age differential was twenty-to-thirty years, and who were just entering the labor market.

Where change in physical function occurred, positive change most often lead to employment, whereas negative change most frequently led to non-employment.

The facility is about equally divided between terminal and transitional service to its employees, provides work adjustment and training programs to approximately one-third of those served, and does specific work evaluations on less than ten per cent of those employed.

The present practice of non-selective employment in relation to disability, previous work experience, age and educational level of the handicapped is justified on the basis of successful post-service employment placement.

The available in-service work experiences, as related to post-service placement, are adequate for serving the handicapped. More than half of the clients have been advanced to or returned to competitive employment.

The lack of adequate production contracts has seriously limited the number of handicapped who could be served and has prevented expansion of the program so that less than half of those desiring service have been employed.

Further areas of research suggested by the present investigation include: (1) an investigation of the influence of severity of disability upon the process of workshop rehabilitation, (2) an investigation of the relationship of the self-concept of the handicapped to the rehabilitative process in workshop settings, and (3) the influence of worker concepts of workshop objectives as related to work potential and work productivity in the workshop rehabilitation process.

Implications of the possible relationships between rehabilitation and special education programs were discussed, since it was observed that those handicapped who were younger, had congenital or early age of onset of disability and higher levels of education required shorter periods of vocational rehabilitation.

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BY

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

The sheltered workshop, as it exists today, is of comparatively recent origin, yet the roots of its development extend far back into the past. History is full of references to man's inhumanity to man; of the fear, the suspicion, the discrimination against the physically and mentally handicapped and of their treatment through destruction, abandonment, or banishment as though they were visible evidence of something evil, something to be avoided. Traces of this same attitude are still evident today along with an ever increasing awareness of the brotherhood of man. Allan (1:3) points out that the Christian principles of brotherhood, charity, and the dignity and worth of the individual, along with the democratic concepts of individual rights and freedoms, mutual dependence and trust form the basis of our growing concern for our fellow man and especially for those with handicaps.

By the Middle Ages, according to Chouinard (6), the Church had begun to treat the deaf with charity and to provide shelter for the disabled in abandoned monasteries. In England, the Elizabethan Poor Laws of the Seventeenth Century gave first civil recognition to the growing conviction of community responsibility for the disabled. These laws

provided relief in the form of workhouses for such persons. The American counterpart was the poorhouse. In both instances the object was charitable custody. It was St. Vincent de Paul who first recognized that work was a therapy for body and spirit. In the early sixteen hundreds, he established a hospital where the old could find shelter and work suited to their ability.

The concept of rehabilitation in the form of care and education for the disabled was first put into practice in Munich, Germany, in 1820. In 1840, the first workshop in the United States was established in a school for the blind, Perkins Institution in Massachusetts. Meanwhile, workshops for the orthopedically disabled began to spring up in the form of custodial homes, clinics and hospitals during the middle eighteen hundreds. These developed under the impetus of the study and practice of orthopedics. Near the close of World War I, rehabilitation programs, influenced by the growing practice of physical medicine, began to be established. The first one was the Institute for Crippled and Disabled in New York in 1917. The realization that physical restoration and work training were integral and closely related parts of the rehabilitation process was clearly evident by this time.

World war II gave great impetus to advances in rehabilitation. These advances have not only promoted increased awareness by the American public of its responsibility to the disabled, but also stimulated efforts in behalf of their

needs.

Federal legislation has been instrumental in promoting the cause of rehabilitation of the disabled. With the passage of Public Law 236 in 1920, the federal government gave official recognition and support to the rehabilitation effort. Subsequent laws strengthened this support. For example, in 1954, Public Law 565, among other provisions, made available federal funds for the modification and improvement of both facilities and equipment of sheltered workshops.

This brief resume' calls attention to only a few of the many milestones in the growing awareness of public responsibility and the economic value of physical and vocational restoration of the disabled. Present sheltered workshops, in their many forms of organization and purpose, are attempts to implement, in a concrete way, this awareness. The following quotation from Chouinard (37:1) seems a fitting summation of this growing awareness and of the attempts to implement it:

The current surge of interest in this country in workshops for the disabled and in rehabilitation in general has come from a slowly developing but far-reaching social consciousness of the employment and other rehabilitation needs of the physically handicapped...

Accompanying this...has been a sharpening of understanding of the economic and human benefits to be reaped from vocational rehabilitation services to persons left with physical or mental limitations as a result of illness, injury, or congenital conditions.

Sheltered Workshop Sponsors
and Programs

Sheltered workshops are initiated by and receive their support from a variety of sources. The Salvation Army and Volunteers of America, along with Goodwill Industries of America, are national organizations which support local workshops. Such national voluntary organizations as the United Cerebral Palsy Association, the National Association for the Mentally Retarded, and the National Society for Crippled Children and Adults help support workshops of local affiliates. Several national religious denominations sponsor workshops under the management of local affiliates. Some state welfare and rehabilitation agencies and departments of education also sponsor workshops for the blind, deaf, mentally retarded and severely disabled. Other workshops are adjuncts to hospitals and their rehabilitation programs. Still others are initiated and supported by local communities and private organizations.

Along with the variety of sponsorship, there is also a wide range of programs carried out by the approximately 800 workshops in this country (50:2). Some of these programs are limited to employment of those with a single disability. Others have programs for those with multiple disabilities, or, in other words, they service all who can benefit from their services. The workshops vary from the terminal type shop, where the disabled employee, unfeasible for competitive employment, finds continued work, to the transitional shop where he is expected to prepare himself to take his place in

competitive employment. The variety of the programs is too great to more than sketch briefly here.

History of Rehabilitation Industries, Inc.

Rehabilitation Industries, Inc., presents a distinct pattern of development inasmuch as it is an outgrowth, or a culmination, of a program of rehabilitation for the disabled in Ingham County, Michigan.

Two doctors, members of the Geriatrics Committee of the Ingham County Medical Society, in 1951, conceived the idea of a rehabilitation program for the County (41). The idea was developed in exploratory talks and the Geriatrics Committee took it as a major project. A committee known as "The Professional Advisory Committee" was formed. It was composed of members of the Medical Society; representatives from several departments of Michigan State University, the State Crippled Children's Society, the State Division of Vocational Rehabilitation, Visiting Nurses, Physical Therapy personnel; and individuals of the community interested in rehabilitation. This committee functioned for more than a year before a pilot study was undertaken, in 1952, at the Ingham County Hospital, Okemos, to determine the advisability of a rehabilitation program.

This pilot study proved satisfactory. Consequently, in November of 1952, a decision was reached to establish an Advisory Council, to elect a Board of Directors and to incorporate, if necessary; and finally, to apply to the Community Chest for financial support. In February, 1953, the

Ingham County Rehabilitation Center was incorporated as a non-profit organization, with quarters in the Ingham County hospital, Okemos.

Sheltered workshop established. The Vocational Rehabilitation Committee, in 1954, recommended that the Rehabilitation Center make plans for establishing a sheltered workshop patterned after the Goodwill Industries in Lansing. However, this was not acted upon at the time, but in April, 1955, the Committee was directed by the Board of Directors of the Ingham County Rehabilitation Center to again study the type of sheltered workshop needed. After considerable exploratory work and planning this effort culminated in the establishment in February, 1956, of Rehabilitation Industries, a contract sheltered workshop as a division of the Ingham County Rehabilitation Center.

Purposes of Rehabilitation Industries, Inc. The purpose, according to Article II of the By-Laws of Rehabilitation Industries, Inc., is:

...to evaluate, train, place and employ vocationally handicapped persons and to stimulate public interest in the rehabilitation of persons who are handicapped because of disease, maladjustment, injury or for any other causes; to manufacture, repair and service any and all articles of commerce; to perform services of all kinds for customers, such as packaging, assembly operations, woodworking, sorting of small parts, steel palletizing, addressing and mail work, furniture repair, refinishing and upholstering, as well as fulfilling any and all customer requirements. The purposes of this corporation are entirely humanitarian and no pecuniary benefit or margin of receipts above expenses shall accrue to any member or individual (2:24).

Sources of Revenue. Since Rehabilitation Industries was organized as a contract sheltered workshop, a large portion of its finances is derived from revenue realized from the contracts. Another source of income is the fee charged other agencies, such as the Division of Vocational Rehabilitation and the Division of Services for the Blind, for work evaluation and vocational retraining of persons referred by these agencies for such services. The Lansing Community Chest has been a continuing supporter and each year additional contributions have been received from individuals and organizations interested in the workshop program.

Federal Funds. In addition, in November, 1955, the Office of Vocational Rehabilitation in Washington, in conjunction with the State Division of Vocational Rehabilitation (11), granted the sum of \$6,000.00 for a six-month period ending July 30, 1956, to assist the work of developing the workshop. In October, 1956, a second grant in the amount of \$11,000.00 was made to continue the assistance. Its termination date was June 30, 1957, when the provisions of the federal law, Public Law 565, under which it was granted expired.

Rehabilitation Industries, Inc. hired its first director in February, 1956. Prior to his appointment the director had been a field agent of the Division of Vocational Rehabilitation for the Lansing Area. A shop supervisor for the workshop was recruited from local industry. He occupied the position of general foreman and shop supervisor

until August, 1957, when he took over as director upon the resignation of the first director. A shop supervisor was selected from the employees this time and served until he was replaced by a shop supervisor who also, like the first supervisor, was recruited from industry. The second director resigned in May, 1961. While selection of a new director was being made this function was filled by the Executive Director of the Ingham County Rehabilitation Center, Inc.

Employment. The first employee was hired in May, 1956, to assist in preparing the facilities at 1121 May Street for occupancy. Rehabilitation Industries, Inc., officially opened its doors on May 15, 1956, and soon had four employees (40). Its first employee, however, left within a few months to take another job in competitive employment, a job which he still holds. At the end of the first year of operation employment had grown to seven persons. At the end of two years there were 18 on the payroll with an increase to 23 by May, 1959. The highest level of employment was reached in November, 1959, when there were 38 persons on the payroll. Lack of contracts and suitable work led to a drastic 45 per cent cutback of employees at the end of November, 1959. By the following May there were 17 employees in the shop. This level of employment continued fairly steady but by the end of June, 1961, it had dropped to 14 shop employees.

Rehabilitation Industries Incorporated. Rehabilitation Industries became Rehabilitation Industries Incorporated

on July 1, 1960 (2). This served the purpose of separating the accounts of Rehabilitation Industries, Inc., a Community Chest-supported agency, from those of the Ingham County Rehabilitation Center which is not supported by the Community Chest. The two organizations, however, still continue to have the same Board of Directors, composed of 21 members and the same Executive Director.

Need for the Study

As previously stated, there are many types of workshops each with a program best suited to its purposes. It is suggested by authorities in the field that each workshop define its own goals and objectives in light of its purposes, the community in which it is located, and the clientele whom it will serve. A report on Rehabilitation Industries, Inc. indicates that:

[It] serves persons who are more advanced in the rehabilitation process who are in need of vocational training or retraining to qualify them for a return or advancement to competitive employment. The handicapped worker is assigned to the type of work and for the working hours indicated by his condition. (47:21)

Research Resolution. On a motion passed by the Ingham County Rehabilitation Center Board of Directors on March 18, 1959, the Research Committee was instructed to consider the development of research to be undertaken under the supervision of Michigan State University to evaluate the services of the Ingham County Rehabilitation Center in:

...a kind of human and economic 'cost accounting' ...Every Sheltered Workshop must decide whether it will aim to train handicapped persons as productive workers for outside employment or provide employment for the chronically unemployables, and in what proportions to divide their energies and resources and at what costs they justify the use of their resources, and how they can arrive at some evaluation of the 'most effective use' of their resources (3).

Such was the justification for this present study, the dimensions of which were developed in connection with the Research Committee of the Ingham County Rehabilitation Center, who desired that this study should be in the form of a survey of past rehabilitative operations and should confine itself to an appraisal of Rehabilitation Industries, Inc.

Purpose of the Study

The purpose of this study was to make an appraisal of Rehabilitation Industries, Inc., to determine if the rehabilitative services, which it has provided to the handicapped workers whom it formerly employed, have been in keeping with the expressed purposes as outlined in Article II of the By-Laws. These objectives include:

1. The evaluation and development of work potential of those handicapped persons in need of this service.
2. The training or retraining of those handicapped individuals where necessary to assist them to become employable.
3. The return to competitive employment of as many of the handicapped whom it serves as possible.

4. The employment in sheltered work conditions of as many as possible of those handicapped persons whom it has served and for whom competitive employment is not feasible.

To be more specific, this appraisal was made by means of a pre-service, in-service, and post-service inventory to indicate the degree of success, if any, these services, as related to the below indicated factors, have had in rehabilitating these handicapped former workers as measured by the type of post-service placement of each worker. It will be expressed in terms of:

1. The relationship between the type of disability and the type of rehabilitative work program to the ultimate placement of the worker.
2. The disability groups which have been most successfully, and least successfully, served in terms of placement.
3. The relationship of the type of in-service work experience to the type of placement.
4. The influence of the type of pre-service work experience upon the type of placement.
5. The influence of the educational grade level attained upon the type of placement.
6. The influence of the factor of age upon the type of placement.
7. The influence of the changes in physical function of the disabled upon the type of placement.
8. The degree to which the handicapped have been served in relation to those desiring service.
9. The extent to which Rehabilitation Industries, Inc., has been serving as a transitional and a terminal facility for the handicapped.
10. The growth of Rehabilitation Industries, Inc., in terms of the number of handicapped employed.

Definition of Terms

The following terms were used in this study:

Disabled or Handicapped Individual - any individual with a physical impairment who received one or more services from Rehabilitation Industries, Inc.

Physical Function - refers to the evidence of voluntary mechanical function in activities of daily living of the neuromusculoskeletal system.

Placement - the kind of work, or non-work, situation, of the individual after his discharge.

General Labor - refers to a type of activity involving a number of different low-skill level jobs as in work evaluations.

Part-time Work - employment on a continuing but not a full-time basis.

Full-time Work - employment on a continuing basis of approximately a forty hour week whether or not on temporary lay-off.

Odd Jobs - Occasional work with no continuing basis.

Terminal Employment - employment in sheltered situations for workers not capable of competing in the open labor market.

Sheltered Employment - employment at Rehabilitation Industries, Inc., for a period of twenty weeks or more.

Transitional Employment - employment, generally on a short term basis, that leads to employment in other than a sheltered work setting.

Evaluation - a tryout of different work experiences to indicate the work potential of an individual.

Work Adjustment - work experience designed to develop a capacity for work and to form good work habits.

Training - a prescribed program designed to develop an increased level of skill in a particular type of work.

Limitations of the Study

The population of this study was limited to those disabled individuals who were employees of Rehabilitation Industries, Inc. prior to June 30, 1961 and for whom adequate records and information were available to permit a pre-service inventory. A further limitation was a requirement of residence within a fifty mile radius of Lansing so they might be contacted for the post-service inventory interview.

No attempt was made to evaluate the physical facilities of Rehabilitation Industries, Inc., to determine their adequacy or inadequacy in relation to the services provided those handicapped persons. Again, no attempt was made to evaluate how these facilities affected the outcome of services provided.

The influence of psychological factors, social climate, recreational and social facilities, supportive agencies, management, and supervision upon the results of the services and the post-service adjustment of those disabled persons served were not taken into account.

Organization of the Thesis

Chapter one has presented a general description of the rationale for the present study. A short survey of work shops in general and a brief history of Rehabilitation Industries, Inc., has been given. The specific purpose of the study has been presented. The definitions of the terms used have been described. Finally, the limitations of the study have been discussed.

In Chapter two, a review of representative literature and of related research was presented.

Chapter three contains a description of the methodology used in the collection, organization and analysis of the data.

In Chapter four a description of the study population was given along with other related follow-up information.

Chapter five contains an analysis of the data relative to this study and a discussion of the results.

The final chapter contains a summary of the study, the conclusions that have resulted, recommendations, implications and suggestions for further research.

CHAPTER II

REPRESENTATIVE LITERATURE AND RESEARCH

Introduction

This chapter will concern itself with a review of representative literature in the field of rehabilitation. Specifically, it will look at literature which is related to workshops in particular, and to the aspects of rehabilitation that pertain to sheltered workshops in general. It will also concern itself with literature specifically related to the several phases of workshop functioning.

The chapter is organized to include literature in the following areas: a general overview of the literature and research; employee selection, evaluation, and wages; shop operations, and financing; psychological factors influencing workshop achievement; and success of rehabilitation through sheltered workshops.

Review of Literature and Research

A search of the literature reveals that, while the literature is quite extensive in relation to the various aspects of rehabilitation, relatively little has been directed specifically toward the sheltered workshop. For the most part, these writings tend to deal largely with the processes of rehabilitation of specific disabilities and only incidentally with sheltered workshops in a global sense. However, with the growing concern for workshops, especially

within the past decade, the literature is increasing.

Representative of this literature are the following: Workshops for the Disabled: A Vocational Rehabilitation Resource (36), a symposium dealing with various aspects of workshops; Sheltered Workshops and Homebound Programs: A Handbook (34), which is, as the title indicates, a handbook that supplies information needed for establishing and operating such programs; The Role of the Workshop in Rehabilitation (35), a report of a conference held at Bedford, Pennsylvania, in 1958, to discuss the present and future role of workshops for the disabled; and New Horizons for Workshops for the Handicapped (24), a report of a training institute for rehabilitation workshop directors held in California that was similar in intent to the conference held in Bedford, Pennsylvania.

In the area of research, there is a similar pattern. Although stimulated by the financial grants made possible through the Office of Vocational Rehabilitation under federal legislation in 1964, the vast majority of research projects (37) seems to be directed toward specific types of disabilities and the processes of their rehabilitation. Sheltered workshops as such are given a limited amount of attention in the projects submitted. Antonio C. Suazo, Executive Director, National Association of Sheltered Workshops and Homebound Programs, Inc., sums it up by stating, "unfortunately there is a paucity of research information in this particular [workshop] area." (51) However, this condition

should show increasing change as the research projects dealing specifically with various aspects of workshop operations continue to increase in volume. At the present there are several projects under way that will be completed within the next year or two. These should substantially increase knowledge concerning workshop standards, work evaluations, facilities, employment, placement, psychological factors involved in rehabilitation, and other problems of concern to those in this field. These will be discussed in their appropriate places in this review of related literature and research.

Workshops Defined

The sheltered workshops have been described and defined on several occasions. While the wording in each case may vary somewhat, still the concepts underlying the definitions remain basically similar. In 1944, the National Advisory Committee on Sheltered Workshops of the Wages, Hours and Public Contracts Division of the U.S. Department of Labor developed a definition that is substantially the same as that of the National Association of Sheltered Workshops and Homebound Programs, Inc., which was developed in 1930, and reads:

A sheltered workshop is a voluntary organization or institution conducted not for profit, but for the purpose of carrying out a recognized program of rehabilitation for physically, mentally, and socially handicapped individuals by providing such individuals with remunerative employment, and one or more other rehabilitative activities of an educational, psycho-social, therapeutic or spiritual nature. (34)

Part of the difficulty in getting a precise definition of the functions of a workshop is the inability to define and delimit adequately the services and purposes of such an institution. The following definition is acceptable to the National Rehabilitation Association:

A sheltered workshop is a work-oriented rehabilitation facility with controlled working environment and individualized vocational goals, which utilize work experience and related services for assisting the handicapped person to progress toward normal living and a productive vocational status. (44)

Purposes of Sheltered Workshops

The original workshops were a means of providing work in a sheltered situation for persons primarily of custodial status. The present-day emphasis upon the therapeutic and the rehabilitative aspects is almost the antithesis of this earlier concept. (1:82) No longer is the sheltered workshop considered the only means of employment for handicapped people. (34:2) It is now considered an important step in the rehabilitative process, and, as it were, frequently a link between the bed and the job. (38:7) Another view conceives of the sheltered workshop as similar in function to the foster home. "Foster care" is concerned with providing as nearly a normal home-life situation as the circumstances and community resources permit, whereas "foster work" would duplicate as nearly as possible the normal work environment. (24:8)

In our society work is a symbol of status. Among the serious effects of involuntary unemployment are the loss

of morale, the gradual social isolation, and the feeling of inadequacy on the part of the individual. (15) The competitive workshop is one place where the handicapped can really be employed and not just kept busy. Because the worker not only comes to feel needed but also begins to have success in a work role, his experience in the workshop has a wholesome effect upon his self-image. (59) For his total readjustment, this is most desirable.

As reported in The Role of the Workshop in Rehabilitation, the conference of Bedford, Pennsylvania, in 1958, the needs of the handicapped were indicated as:

Economic - adequate income for food, clothing, shelter and maintenance of physical and mental health.

Medical - physical and mental restoration.

Psychological - self-understanding.

Spiritual- satisfaction of these needs can aid self-acceptance and acceptance of the situation.

Educational - educational or vocational within limits of his ability.

Social - on four levels of family acceptance, community acceptance, societal acceptance, and cultural acceptance.

Vocational - such preparation as needed to enable him to assume or resume his place in the community. (35:2-5)

The workshop functions in the role of enabling those persons who are not acceptable or not ready for competitive employment to enter into work activity within the range of their capacity. (35:7) (23) Within this setting the purpose of the workshop is, "... to develop each

individual to his fullest capabilities, mentally, physically, socially, vocationally, and spiritually." (24:13) With this in mind, the ultimate objective of the workshop should be to "graduate" as many of its workers and trainees as possible into competitive employment. (38:51)

Most of the literature points out that the workshop should reflect the needs of the community and the needs of the disabled whom it will serve. To accomplish this, the workshop should ideally possess these characteristics:

- A multi-discipline approach to evaluation, training, and work preparation;
- An emphasis on self-help and productivity;
- A community-oriented approach;
- A flexibility in planning and services;
- A controlled environment conducive to independent work;
- A dynamic atmosphere that promotes social and work integration;
- The appropriate personnel and facilities to establish and maintain these characteristics. (44)

The workshop as an adjustment center (35:17) with a team approach to services (33) provides an opportunity to handle most of the types (30) of employees that are likely to come for service. Ideal as these goals may be, each must be examined and implemented in the light of the degree to which each relates to the workshop, the community and the disabled to be served. (38:10) An obvious implication here is that workshops must keep abreast of the needs of business and industry. Therefore, the service or training which the disabled receives must be preparation not for jobs that do not exist, but for successful competition for jobs

which do exist. (43)

A service more often recognized by industry than by workshops is the provision for recreation. According to a two-year study, (3) (9), the recreational activities need to be within the range of both the physical and the financial ability of employees, as well as within the range of implementation by the workshop. According to authorities, even the small shops can provide a minimal program to meet these needs.

Workshop Standards

A workshop may provide any, or all, of the services of physical restoration, evaluation, personality adjustment, vocational training, sheltered employment, placement, or follow-up. For each service, however, it must set standards of performance. The "standards will vary according to the purposes of the local shops, and must be defined in such terms." (25) At the same time it must be remembered that the client has certain basic rights (38:44-45), and the standards should be designed to implement these rights.

The standards by which a workshop can measure itself and its program have been the concern of many. During December, 1959, a series of five Urban Area Meetings were held for workshop personnel. A basic purpose of these workshops was to develop composite thinking in relation to standards. (36) Out of this has come an Experimental Evaluation Instrument (37) which is being cross-validated to see whether it will consistently discriminate between strengths and

weaknesses in sheltered workshops. This study is now in progress.

Goodwill Industries of America, Inc., in July, 1961, adopted a set of standards upon which its workshops could be accredited. This procedure is similar to that employed in reviewing schools and hospitals for accreditation. (53) This evaluation covers the areas of organization, administration, facilities, performance, and service to the clients.

Standards serve several purposes. (28) They help keep the workshop competitive relative to product, work standards, production and wages. They also encourage industry to hire the handicapped since they serve as measures whereby the handicapped can be evaluated.

Types of Workshops

The task of differentiating the various types or categories of workshops is difficult because the sponsoring group behind a workshop usually determines the types and extent of services offered and the type of handicapped persons served. Generally these patterns are emerging:

The short-term and long-term workshop.

The single and multiple disability workshop.

The workshop for the young adult and the aged.

The workshop for the congenitally disabled and the later disabled.

The workshop with and without production emphasis.

The workshop offering specialized services and that offering comprehensive services (35:33-34).

In general, workshops can be grouped into three basic types:

The Industrial Workshop for sheltered employment for those handicapped persons who because of their disability cannot be absorbed into competitive employment.

The Industrial Rehabilitation workshop whose primary aim is preparation of handicapped individuals for fully competitive employment.

The Industrial Rehabilitation Shop for institutionalized persons for the training and educating of those handicapped for return to fully competitive employment (34:3-4).

All of the workshops operate on the basis of (1) subcontracts from industry, (2) salvage, (3) prime manufacturing on its own, or (4) some combination of these (38:18). Through this work they provide the services, according to type of shop (15), for terminal or transitional employment by means of a single or a multidisability shop. Abilities, Inc., (56) represents a successful multidisability contract shop where abilities and disabilities are used to complement each other. Altro Work Shops (80) represent primarily very successful single disability workshops. At Altro it is felt that poor disability risks should not be employed. The sheltered workshop is designed as neither an occupational therapy nor a vocational training center, but as a sheltered environment where the employee can physically harden and develop good work rhythm and habits for entry into suitable competitive employment.

Workshops which operate on the basis of subcontract work find this operation of great value because of the

industry-relatedness of the jobs. Contract work can also be a source of instability because it does not permit control over materials and production schedules. (48) Even though these contracts should be on a competitive basis with private industry, they should be a means to an end, rehabilitation, and never an end in themselves. (48)

Along with the increasing number of workshops is an increasing number of single disability workshops, such as those for the blind, the deaf, and the mentally retarded. There is lack of agreement on whether the single or multiple disability workshop is best. (39) While each has its advantages and disadvantages, the arguments for or against the particular type of workshop seem to depend primarily upon the orientation of the advocate.

Employee Selection

The kind of employee which the workshop will hire will depend not only upon those disabled persons who can qualify for employment, but also upon the purposes and objectives of the workshop. There are some who feel that those disabled persons who are poor risks for rehabilitation should not be hired. (30) There are others who feel that all clients could be rehabilitatively upgraded to some degree. The smaller workshops are more likely to accept the marginal handicapped worker. Each workshop has the alternative of establishing employment policies from either the client-centered or the agency-centered viewpoint. (34:31)

Eligibility must be determined in each instance by the purpose and program of the agency or workshop. In all honesty, the purpose and program should be geared to, and yet flexible within, the needs both of the client and of the community. (26)

Employee Evaluation

Evaluation of the work potential of the employee is one of the main tasks in preparing the disabled to enter competitive employment. Although preliminary evaluation may have taken place before the handicapped enters the workshop, there is need for continued evaluation under work conditions. (33:50) It is through evaluation that the production potential of the individual can be ascertained. It is also the means whereby the individual can compare his production with standards acceptable in industry. (33:111)

Several projects have been completed, or are now in process, in an attempt to develop an objective scale to measure the work potential of the individual. At Highland View Hospital, Cleveland, (8), it was found that measuring work capacities of individuals is qualitatively no different from measuring any other aspect of behavior by means of behavior traits. An accurate, reliable, objective test to measure work potential and ability was developed that showed significantly high correlations ranging from $r. 65$ to $r. 96$.

A follow-up study of the program for measuring work potential of the seriously handicapped at Indianapolis Goodwill Industries indicated that the evaluation and

recommendations at the end of a three-week period of observations and tryouts were relatively suitable. The program had been in operation four years at the time of follow-up.(32)

Another research project to develop a scale for evaluating and predicting employability was undertaken by the Jewish Vocational Service, Chicago. (24:11) This project is still in operation but preliminary results suggest that the workshop section of the scale is reliable and valid enough to warrant field trial.

Wages of Employees

Although sheltered workshops are not expected to operate as a profit-making business such as private industry, still the wage rates paid to the employees should be related to the wage structure of the community. (34:43) This is especially true if the wage payments are to be used as a tool in the rehabilitation process. Some shops pay their employees on an hourly basis scaled to the work capacity of the worker, but many others use the piece-rate system.

Under provisions of Federal Wage and Hour Law, workshops which engage in production of goods for interstate commerce must comply with the prevailing federal wage level. (36:21) Payment of less than the prevailing wage can be authorized, by a special certificate, for those employees whose disability results in impaired earning capacity. However, the worker must be paid wages "not less than those paid non-handicapped workers in industry in the vicinity for essentially similar quantities and qualities of work." (30)

Workshop Operations

Operation of a sheltered workshop, even with the best of methods and administration, is still more costly than the operation of an ordinary business. This is due largely to the cost of equipment. The very nature of the objectives, i.e., the development of work potential, means a generally lowered standard of rate of production, and, in the transitional case, the loss of the most capable workers to outside employment. Efficient operation is measured not alone by decrease in operating loss, but also by improved employability of the workers. (50)

Some workshops have attempted to provide a great variety of work in a kind of vocational trade school. This, however, can be a wasteful duplication of such services already available in the community. (1:86) Therefore, before establishing a trade school type of workshop, this needs to be considered. However, it is still wise to remember that, as studies have shown, "the type of work performed by the clients in the workshops is less important in their rehabilitation than the opportunity to develop positive work patterns and acceptable social behavior in the work situation." (7)

Supervision in the sheltered workshop requires persons with experience in industry for practical business operation, as well as a deep interest in the handicapped and their problems. There should be constant striving to increase the performance level of the individual employee (10),

thereby improving the quality of the products and the level of performance on contracts. This calls for considerable sensitivity on the part of supervision to demand more and better work from the employee. In so doing, such supervision helps him develop his own skill and work potential because: "in the final analysis we do not rehabilitate the client. At best we can only help him do the job himself."

(50) One way to do this is to help the worker to first understand and achieve the quality standards set up for the operation, and next to reach the production rate that achieves the minimum wage rate. (21)

For the contract workshop, there is always the problem of obtaining and keeping enough contracts. Industry will look with favor on subcontract work provided it is performed with satisfactory quality and provided industry is not expected to subsidize employment of persons with abilities below minimum for the job. (35:36) Subcontracts of the "nuisance" variety jobs, those stemming from stepped-up production, and those obtained in open bidding competition are available to the enterprising workshop.

Some of the sources from which to obtain contract leads, in addition to a potential customer and contract file, include: "help wanted" columns, indicating labor shortage; members of the workshop administrative board with industry contacts; the local Chamber of Commerce; and top-level personnel in unions and trade associations. One agency used the "open house" method to stimulate community and industry

interest in their program. This proved so successful that within two years they had increased employment fivefold. (50)

At the present time, there is underway a research project to develop methods and techniques for use by sheltered workshop programs in obtaining new or increased contract resources. (33) Another research program also in progress is designed to identify and analyze the marketing problems of sheltered workshops. In addition, it seeks to prepare a guide which will adapt marketing principles to the special needs and problems of agencies providing sheltered employment for handicapped individuals. (39:30)

Workshop Financing

Financing the operations is a problem for the sheltered workshop. There is income from the sale of products and from completed contracts, but this source is generally insufficient, because "workshop production may pay its own way, but it cannot be expected to pay for rehabilitation services... [consequently] subsidization is necessary for the rehabilitation services by the workshop." (35:54) While grants and subsidies from local, state, and federal sources are acceptable, local community support is preferable. Workshops must have financial assistance from voluntary or public sources and they must solve the problems of financing if they are to fulfill their responsibilities. (52)

Debating whether the sheltered workshop is primarily a business or primarily a charity, as put forth by advocates of both views, seems to be almost evading a basic issue.

More to the point, it would seem, is the fact that the workshop is both a business and a "charity." "It cannot operate without subsidy, but without business it cannot exist." (40) Distinguishing characteristics, if any are needed, might be found in the degree to which the workshop is one or the other or both.

Placement of Employees

Theoretically, the objective of the workshop is to develop the work potential of the handicapped to the point where he can successfully compete with the non-handicapped worker. In actual practice, the placing of the handicapped worker is a task of major proportions. Employer resistance appears to be still strong, even though there is evidence of some easing of this resistance.

In a small study (28) involving twenty employers who were representative of business and industry, in 1951, a discrepancy was found between theory and actual practice in hiring the handicapped. These employers also possessed an aggregate of misconceptions, false beliefs, and false notions related to the capabilities and abilities of the handicapped.

Another study (57), involving a survey of 311 industrial physicians to determine their recommendations for employment of various types of disabilities, was made in 1955. This disclosed that the non-progressive physical handicaps made up the largest disability group acceptable to more than 50 per cent of these physicians. The importance of ambulation

to these physicians is shown by the following facts: 84 per cent would reject those who use canes, 41 per cent those who use crutches, 75 per cent those who use wheelchairs, and 70 per cent those with severe visual restriction.

The same general picture of employer resistance is shown in the study (13)(4) reported in 1959. This study covered more than 1,000 firms employing 300 or more workers. It found, among a number of things, that formal written policies and practices relative to hiring the handicapped for the most part did not exist. In addition, a large majority of those responding indicated that they had not knowingly hired disabled workers.

A study (45) reported in 1961, found a generally favorable attitude toward hiring the handicapped. However, it indicated there were some restrictions on opportunities for employment and advancement. It also suggested positive results on the part of past efforts to educate private industry to hiring the handicapped.

At the present time there is a research project in progress that may assist in placing the handicapped. The study is attempting to compare different types of placement services. The object is to determine the most effective placement methods for use by agencies working with the handicapped. (39)

A useful bibliography relative to various aspects of employing the handicapped was published by the United States Bureau of Labor Standards in 1953. (55) It lists

many useful references on employment of the disabled in industry, government, workshop, and selective placement, as well as a number of references on the major groupings of types of disabilities.

Psychological Factors Influencing Workshop Adjustment

Attitudes of the individual toward his disability are influencing factors in the type of workshop adjustment the individual makes. This adjustment is dependent upon the individual's self-concept, which incorporates his disability as well as the "needs satisfaction" he may derive from staying disabled. (12) Considerable value is placed by our society on the "body-whole" and "body-beautiful." Such values often influence to a greater or lesser degree the individual's social status. Disability, thus, because of these values, may make him feel inferior both in respect to his being a total person and in respect to his specific disability. (54:18)

In a study of 40 women with visible disabilities, it was found that those women with the least negative attitudes toward their disability appeared to make the best all-around adjustment. (13) In another study involving 30 amputees in a Veterans' Administration Hospital, the differences noted in the rehabilitation activities were judged to be products of personality structure and dynamics. The total life picture of the amputee was the best criterion of his ability to adjust. (27)

An attitude toward work, or "work personality," was found to be more important than specific experience in vocational adjustment. (17) While there appeared to be no change in basic intelligence or underlying personality structure, there were changes in vocational patterns, or "work personality." These were of sufficient magnitude to enable the applicants to make satisfactory vocational adjustment. (17) While little research is presently being devoted to attitude changes, there is a definite need for study in this area. Although attitudes at a particular time may be indicative of work adjustment, perhaps the changes that take place in attitudes are even more significant. (46)

Another consideration in achieving work adjustment or job satisfaction is the personality characteristics of the individual. (13) It is not enough to place the handicapped worker in a job that, within his limitations, he is capable of handling. Whether handicapped or non-handicapped, the job must fit not only the disability, or the ability, but also the personality characteristics of each individual.

The literature reveals little specific information about rehabilitative success of those handicapped workers discharged from sheltered workshops to competitive employment. Neither is there enough information to draw conclusions relative to the percentage of those who return to sheltered employment. The information that is available generally refers to "vocationally rehabilitated", with little or no

indication of what proportion came from sheltered workshops.

One such study (5) covered handicapped who were rehabilitated and placed in employment during one year. At the time of follow-up, two years later, 92 per cent were found to be self-supporting either as wage earners or as housewives. Of this group, 53 per cent were receiving public assistance at the time of rehabilitation but at follow-up only 3 per cent were receiving public assistance.

A study was made to ascertain the factors that were related to employment success. (46) Four factors were isolated as related to employment status. These factors were: sex, age at onset of disability, nature of the disability, and education.

Workshops appear to have an increasingly vital role to play in the rehabilitation of the handicapped in the years to come. However, the terms "sheltered", "workshop", and "terminal" may be developing the kinds of figure images in the minds of prospective employers and the community that add to the difficulty experienced in desirable transition of the handicapped to competitive employment. They seem to convey the impression that the workshops are primarily shelters for handicapped workers rather than services to the communities. (33:8) Many of the newer shops have attempted to avoid this image by referring to themselves as "training centers", "industries", or some similar designation.

Summary

This chapter has presented a brief review of literature and research related to the field of the sheltered workshop. Through this review it has been found that workshops vary in size, in program, and in philosophy of operation. The community, the handicapped to be served, and the sponsoring agency determine the size of the shop, the types of disabilities to be served, and the types and completeness of services to be provided for the handicapped. These also influence whether the emphasis is to be on terminal or transitional employment in the workshop, and the source of jobs, subcontract, salvage, or product manufacture.

Some consideration was given to the selection of employees, to the evaluation of their work potential and the research in progress in this area, and to wage scales and their influence in the rehabilitation process.

Operation of the shop and its influence upon rehabilitation was indicated along with the methods for financing the shop through subsidy, contracts, salvage and manufacturing. The problems of research related to placement of the handicapped in suitable employment were reviewed.

An area not receiving adequate consideration is the role of psychological factors, such as attitudes and self-image, which influence adjustment of the handicapped in work situations.

The success of workshops in the rehabilitation of the handicapped is not specifically or statistically separated

from the total rehabilitation process. However, there is evidence that rehabilitation can be successful. The concept of workshops as a community service is not always readily apparent and many new shops are avoiding terms such as "sheltered" or "terminal" that convey the wrong impression.

How successful are workshops? It depends upon the criteria by which they are measured and the purposes for which each is established. To evaluate a workshop it is necessary to know "where it is" and "where it wants to go." Therefore, "the workshop's present status can be compared only with criteria based on its stated objectives and avowed functions." (35:35)

CHAPTER III

PROCEDURES AND METHODOLOGY OF THE STUDY

Initial Procedures

A number of conferences with the Research Committee of the Ingham County Rehabilitation Center were held to develop the objectives and purposes of this study. In March, 1959, on a resolution passed by the Board of Directors of the Ingham County Rehabilitation Center, the Research Committee was instructed to consider development of research, under the supervision of Michigan State University, to evaluate the services of the Rehabilitation Center.

As originally designed in cooperation with the Research Committee, the purpose was to study the Ingham County Rehabilitation Center, which is made up of both the Rehabilitation Industries, Inc., and what is now the Rehabilitation Medical Center. However, because of the reorganization in 1960, and the change in the structure of the Ingham County Rehabilitation Center with the establishment of the Medical Center, it was decided to limit the present study to the Rehabilitation Industries, Inc. It was further agreed that this first study would be in the nature of a survey of the rehabilitative results of past operations.

The purpose of this study is to make an appraisal of Rehabilitation Industries, Inc., to determine by means of a pre-service, in-service, and post-service inventory, the effect of the rehabilitative services, as measured by their

post-service placement, upon those individuals employed by Rehabilitation Industries, Inc. The purpose is to determine the extent to which the results of these services are in keeping with the expressed purposes of providing programs of work evaluations and work adjustments, training or re-training, transitional or terminal employment and the placing in competitive employment as many as possible of those disabled individuals discharged from employment at Rehabilitation Industries, Inc., prior to June 30, 1961.

Subjects of the Study

The subjects of this study are those seventy-five handicapped individuals who had been employed and had actually worked one or more days at Rehabilitation Industries, Inc. Those individuals who were employed but had no discernible disability were excluded from the study. The selection of the subjects was made upon the basis of medical information contained in records at Rehabilitation Industries, Inc., or upon information which could be substantiated from records of the referring agency. The file on former employees contained eighty-six folders but, on examination, nine of these employees, or ten per cent, were eliminated because they were non-disabled persons. Two other employees were hired but did not actually work, thus were eliminated from the study.

Development and Use of Survey Instrument

Because of the nature of the study, a survey in-

strument, see Appendix, was designed for use in collecting the data on each of the discharged handicapped employees used in the study. The instrument was constructed from types of information contained in certain forms already in use. These were: (1) the Rehabilitation Industries, Inc., employment application and physical examination forms; (2) the General Basic Medical Examination Record, Form No. VR-21, Office of Vocational Rehabilitation, Department of Public Instruction of Michigan; and (3) items related to physical capacity suggested by those used in a follow-up study conducted at the Rehabilitation Center of the Hospital of the University of Pennsylvania. (19)

The survey instrument was so constructed that it could be used to collect the pre-service data, the in-service data, and the post-service follow-up interview information.

Collection of the Data

A search of the records at Rehabilitation Industries, Inc., was made to collect the raw data available on the discharged disabled employees. This data was then transferred to the survey instrument. After this data had been collected, each of the discharged handicapped employees, who lived within a 50-mile radius of Lansing, and who could be located, was personally interviewed.

The data utilized in this study came from a number of sources. From the records of Rehabilitation Industries, Inc., the following sources were used: the individual

employee's file, including the employment application, the medical records and various pertinent employment information; the payroll records; the time cards; and the monthly employment records. In addition, data were collected from the records of the Division of Vocational Rehabilitation, and the records of the Ingham County Department of Welfare.

These sources provided the basis for pre-service and in-service information. Because of inadequacies or incompleteness of records, such as employment applications, employment records and medical records, multiple sources of information had to be used in many instances to substantiate the information. Many items of information were either left out or recorded in such a way as to leave the information obtained of little value by itself.

In the follow-up survey, to obtain post-service information, structured personal interviews were used. These were based upon the survey form developed for use in this study. The interviews were confined to those former employees who could be located and who lived within a fifty-mile radius of Lansing, Michigan. To supplement recorded information available on those individuals who lived outside the prescribed area or who could not be reached, a number of other persons were utilized. These included members of the immediate family and others who personally knew the discharged employee, such as the present workers of long-time employment at Rehabilitation Industries, Inc. Where there was question of validity of the information, a cross-check of

two or more sources was used to verify the information. Where this cross-check was not possible, the information was not used.

Limitations on the Data

Several limitations on the information used in this study need to be indicated. No attempt was made to determine the degree of severity of the disability for each former employee nor the effect of this severity upon the results of the employment experience. This was due in part to the lack of adequate information relative to the severity of the disability prior to employment at Rehabilitation Industries, Inc., and in part to the fact that this aspect was outside the scope of this particular investigation.

Another factor which could not be controlled, because of the influence of the time factor upon accuracy of recall, was the halo effect of information obtained from the individual on the application blank and in the structured interview. That some of this halo effect is to be expected, is based on results of a study (58) published in September, 1961. It was found that the validity of work history information obtained from the individual was influenced most by the time factor operating between the job termination and the interview time. The study indicated, also, that "invalidity" occurred most frequently in the direction of "upgrading." In addition, it was reported that no evidence was found to indicate that the validity of information

reported varied significantly among the older workers, the disabled, the less educated, from that reported by any other worker group.

Analysis of the Data

After the data were collected, they were first compiled into a composite frequency table with each type of information tabulated according to each of the twenty-three major disability classifications utilized in this study. This information was then analyzed and from it were developed a number of additional frequency tables used in the appraisal of the program of Rehabilitation Industries, Inc.

In the analysis of the data of this study these frequency tables were used to illustrate the various aspects of the information as it relates to the post-service placement of the former workers, the growth of the facility in terms of employment and the extent to which the purposes of the organization are being met relative to serving the handicapped. Each of the tables was discussed and analyzed to determine the significance of the information it contained.

A number of tables were developed to show the relationship between the disability group and the type of post-service placement as influenced by the pre-service work experience, the in-service work experience, the factor of age, the factor of education, and the effect of the changes in physical function. A composite summary table shows by disability group the in-service programs for the

disabled former employees and the types of placement for each of the groups.

Other tables show the number employed in relation to total number of applications by disability groups; evaluation of the program of Rehabilitation Industries, Inc., in terms of terminal, transitional, evaluative, and training programs for each of the disability groups; and the progress or growth of Rehabilitation Industries, Inc., in terms of employment of the handicapped.

Additional frequency tables relate the various disabilities to such factors as age, sex, marital status, educational level, sources of referral, medical records, receipt of welfare, and the attitudes of the former employees toward Rehabilitation Industries, Inc., and their experiences while employed.

The data as developed in the frequency tables were expressed in terms of absolute numbers, in percentages, or in a combination of both, depending upon which seemed to lend itself most adequately to the clarity and the understanding of the information contained therein.

CHAPTER IV

INFORMATION ON STUDY POPULATION

Characteristics of Study Population

Of the seventy-five disabled former employees in the study, fifty-five were contacted for personal interviews, four could not be located, two were contacted but refused to grant an interview, four were deceased, and the remaining ten were living outside the research area. Table 1 presents this summary in relation to the various disabilities of the discharged disabled workers. In all cases the classification was made on the basis of the major disability even though there might be other complicating factors or disabilities.

Further examination of Table 1 shows that the two largest categories of disabilities, those with nine cases each, were back injuries and cerebral palsy. The next largest group, those whose major disability was blindness, had seven cases. Next were the arthritic and traumatic injury cases with five each, followed by amputees, deafness, and psychiatric groups with four cases each: There were three cases of miscellaneous diseases, and two each in anatomical defects, cerebral thrombosis, epilepsy, hemiplegia, hypertension, over-age, post-tuberculosis, post-operative, and paraplegia. Those groups with a single case each were cardiac, Erbs palsy, multiple sclerosis, and post-polio. Therefore, the seventy-five discharged disabled individuals in the study

TABLE 1.--Summary of former employee contacts

Disability	Total Cases	Inter- viewed	Unable to Locate	Refused Inter- view	Deceased	Living outside research area
Amputee	4	2	1	0	1	0
Anatomical Defects	2	2	0	0	0	0
Arthritis	5	5	0	0	0	0
Back Injury	9	9	0	0	0	0
Blindness	7	4	0	0	1	2
Cerebral Palsy	9	6	0	1	0	2
Cardiac	1	1	0	0	0	0
Cerebral Thrombosis	2	1	0	1	0	0
Deafness	4	3	0	0	1	0
Epilepsy	2	1	0	0	0	1
Erbs Palsy	1	1	0	0	0	0
Hemiplegia	2	2	0	0	0	0
Hypertension	2	2	0	0	0	0
Mental Retardation	3	2	1	0	0	0
Multiple Sclerosis	1	1	0	0	0	0
Overage	2	1	0	0	0	1
Post Tuberculosis	2	1	1	0	0	0
Post Polio	1	1	0	0	0	0
Post Operative	2	2	0	0	0	0
Paraplegia	2	1	0	0	0	1
Psychiatric	4	4	0	0	0	0
Traumatic Injury	5	2	1	0	0	2
Misc. Diseases	<u>3</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>
Totals	75	55	4	2	4	10

are contained under the twenty-three different disability categories indicated in Table 1.

In addition there was considerable geographic movement by the former employees within the research area. Some had as many as three and four different addresses. Ten cases, or approximately one out of seven, moved outside the personal interview area of a fifty-mile radius of Lansing,

Michigan.

Of these ten cases three had married since their discharge: the two traumatic injury cases, and one of the miscellaneous disease cases. The two cerebral palsy cases were living at home. The epilepsy case was confined to a mental hospital. The over-age case was in a rest home. The three remaining cases, two blindness and the paraplegia, were working in competitive employment.

Table 2 presents a breakdown of disability by sex. Of the total cases in the study, the vast majority, or eighty per cent, are male and only fifteen cases are female.

As the table indicates, twenty per cent of the women, or three cases, were arthritic while two each were cerebral palsy, deafness, and traumatic injury cases. These four categories make up sixty per cent of the disabilities among the former women employees.

In only one category out of the twenty-three disabilities does a male fail to appear, while there were no women in thirteen of the categories. In each of the disability groups in which women appear, their number is proportionately higher to the men than their total numbers to the total group.

Some of the difficulty with incomplete records is evident in Table 3. This shows that medical information could be obtained from both the employment application and a medical report in only seventeen out of the seventy-five cases under study. Medical reports were available on only

TABLE 2.--Disability by sex

Disability	Total Cases	Male	Female
Amputee	4	4	0
Anatomical Defects	2	1	1
Arthritis	5	2	3
Back Injury	9	8	1
Blindness	7	7	0
Cerebral Palsy	9	7	2
Cardiac	1	1	0
Cerebral Thrombosis	2	2	0
Deafness	4	2	2
Epilepsy	2	1	1
Erbs Palsy	1	1	0
Hemiplegia	2	2	0
Hypertension	2	2	0
Mental Retardation	3	2	1
Multiple Sclerosis	1	1	0
Overage	2	2	0
Post Tuberculosis	2	2	0
Post Polio	1	0	1
Post Operative	2	2	0
Paraplegia	2	2	0
Psychiatric	4	4	0
Traumatic Injury	5	3	2
Visc. Diseases	3	2	1
Totals	75	60	15

twenty-nine cases, or forty per cent, while the disability in over half the cases, or forty-two in number, was determined on the basis of the application information supplemented by information from other sources.

For only two out of the nine cases of back injury were medical reports on file. A similar condition existed for the cerebral palsy cases, with three reports out of nine cases on file. There were no medical reports on file

TABLE 3.--Source of medical information

Disability	Total Cases	Appli- cation only	Medical record only	Both records	No record
Amputee	4	2	1	1	0
Anatomical Defects	2	0	2	0	0
Arthritis	5	3	1	1	0
Back Injury	9	7	1	1	0
Blindness	7	3	0	4	0
Cerebral Palsy	9	6	1	2	0
Cardiac	1	1	0	0	0
Cerebral Thrombosis	2	1	0	1	0
Deafness	4	3	1	0	0
Epilepsy	2	1	1	0	0
Erbs Palsy	1	1	0	0	0
Hemiplegia	2	1	0	1	0
Hypertension	2	0	0	0	2*
Mental Retardation	3	3	0	0	0
Multiple Sclerosis	1	1	0	0	0
Overage	2	0	0	1	1
Post Tuberculosis	2	2	0	0	0
Post Polio	1	0	0	1	0
Post Operative	2	2	0	0	0
Paraplegia	2	2	0	0	0
Psychiatric	4	1	0	2	1*
Traumatic Injury	5	2	2	1	0
Visc. Diseases	3	0	2	1	0
Total	75	42	12	17	4

* Hired as Non-disabled.

for the hypertensions, mental retardation, multiple sclerosis, post-tuberculosis, post-operative and paraplegia cases. While a large number of medical reports were missing from the files, the situation relative to medical information was not quite as bad as might appear. Although medical reports were not on file, in a number of instances medical information was

available from, but not supplied by, the referring agency.

Four of the cases, as shown in the last column of Table 3, have no record of disability indicated and no medical report. While all four had a disability, within the definitions of this study, all were hired as non-disabled employees. These four cases, plus the nine employees previously indicated as non-handicapped, make thirteen, or fifteen per cent, of former employees hired by Rehabilitation Industries, Inc., as non-handicapped workers.

The sources of referral, Table 4, as determined from the information contained in the employment application, indicate that the greatest number, sixty-three per cent, came via one source, the Division of Vocational Rehabilitation. This referral was usually related to a work evaluation, a retraining program, or an employment referral, since many of these cases were eligible for assistance through the offices of the Division of Vocational Rehabilitation of the State Department of Public Instruction. The Division maintains a counseling office in the facilities of Rehabilitation Industries, Inc.

The next largest referral sources were: (1) the Michigan State Employment Security and (2) the Services for the Blind. The former made nine referrals, the latter, five. The last column of Table 4, designated "Other," includes cases referred by Curative Work Shop, newspaper ads, doctors, friends, and the like.

Table 5 presents the marital status of the former

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TABLE 4.--Sources of referral

Disability	Division Voc. Rehab.	Mich. State Empl. Secur.	Ser- vices for the Blind	Veter- ans Admin- istra- tion	Wel- fare	Other
Amputee	4	0	0	0	0	0
Anatomical Defects	1	1	0	0	0	0
Arthritis	5	0	0	0	0	0
Back Injury	6	2	0	0	0	1
Blindness	2	0	5	0	0	0
Cerebral Palsy	3	0	0	0	0	1
Cardiac	1	0	0	0	0	0
Cerebral Thrombosis	1	0	0	0	0	1
Deafness	4	0	0	0	0	0
Epilepsy	1	0	0	0	0	1
Erbs Palsy	1	0	0	0	0	0
Hemiplegia	1	0	0	0	0	1
Hypertension	0	2	0	0	0	0
Mental Retardation	3	0	0	0	0	0
Multiple Sclerosis	0	0	0	0	0	1
Overage	0	0	0	0	0	2
Post Tuberculosis	2	0	0	0	0	0
Post Polio	1	0	0	0	0	0
Post Operative	0	1	0	0	0	1
Paraplegia	2	0	0	0	0	0
Psychiatric	2	1	0	1	0	0
Traumatic Injury	2	1	0	1	0	1
Misc. Diseases	0	1	0	0	1	1
Totals	47	9	5	2	1	11

disabled workers at the time of their employment. This is indicated by sex and by disability group. As the table shows, male employees were about equally divided between single and married. Only eight out of the sixty men were divorced and one was widowed. In the case of the women, quite a different picture appears. All the females fell

TABLE 5.--Marital status at time of employment

Disability	Male Employees					Female Employees				
	Single	Married	Sepa- rated	Divorced	Widower	Single	Married	Sepa- rated	Divorced	Widow
Amputee	0	4	0	0	0	0	0	0	0	0
Anatomical Defects	1	0	0	0	0	1	0	0	0	0
Arthritis	0	1	0	1	0	0	0	0	3	0
Back Injury	1	7	0	0	0	0	0	0	1	0
Blindness	3	4	0	0	0	0	0	0	0	0
Cerebral Palsy	7	0	0	0	0	2	0	0	0	0
Cardiac	1	0	0	0	0	0	0	0	0	0
Cerebral Thrombosis	0	2	0	0	0	0	0	0	0	0
Deafness	2	0	0	0	0	1	0	0	1	0
Epilepsy	0	1	0	0	0	1	0	0	0	0
Erb's Palsy	1	0	0	0	0	0	0	0	0	0
Hemiplegia	0	0	0	2	0	0	0	0	0	0
Hypertension	0	2	0	0	0	0	0	0	0	0
Mental Retardation	2	0	0	0	0	1	0	0	0	0
Multiple Sclerosis	0	0	0	1	0	0	0	0	0	0
Overage	0	0	0	1	1	0	0	0	0	0
Post Tuberculosis	2	0	0	0	0	0	0	0	0	0
Post Polio	0	0	0	0	0	1	0	0	0	0
Post Operative	0	2	0	0	0	0	0	0	0	0
Paraplegia	0	1	0	1	0	0	0	0	0	0
Psychiatric	1	2	0	1	0	0	0	0	0	0
Traumatic Injury	1	1	0	1	0	1	0	0	1	0
Misc. Diseases	2	0	0	0	0	1	0	0	0	0
Totals	24	27	0	8	1	9	0	0	6	0

into two categories: nine were single and six were divorced. However, between the time they were discharged from Rehabilitation Industries, Inc., and the time of the study, five of the females had married.

Further examination of Table 5 reveals that all of the cases of anatomical defects, cerebral palsy, cardiac, Erbs palsy, mental retardation, post-tuberculosis and post-polio were single. One of the female cerebral palsy cases is now married. Among the arthritic cases, four out of five are divorced. Among the two hemiplegia and two paraplegia cases, only one, a paraplegia case, is not divorced. On the other hand, all four of the amputees are married.

To further define the population, Table 6 shows the distribution by age groupings of the former handicapped employees according to the onset of the various disabilities. Examination of the table shows that almost one-third, or twenty-three cases, were disabled at time of birth, and that forty-four per cent, or thirty-three cases, were nineteen or younger at the time of the onset of disability. Of the seventy-five handicapped persons, approximately sixty-two per cent, or fifty-one cases, were under forty years of age at the onset of disability, only two cases were beyond sixty years of age, and twenty-two of the cases were between the ages of forty and sixty. Among the over-forty age group, at onset of disability, were, for the most part, the arthritic, cerebral thrombosis, hypertension, and multiple sclerosis cases. The other disabilities tended to have an onset before

TABLE 6.--Age at onset of disability

Disability	AGES						
	0	1-19	20-29	30-39	40-49	50-59	60-69
Amputee	0	0	0	2	1	1	0
Antomical Defects	2	0	0	0	0	0	0
Arthritis	0	1	0	0	4	0	0
Back Injury	1	1	1	4	1	1	0
Blindness	3	1	0	0	2	1	0
Cerebral Palsy	9	0	0	0	0	0	0
Cardiac	1	0	0	0	0	0	0
Cerebral Thrombosis	0	0	0	0	1	1	0
Deafness	3	0	0	0	0	1	0
Epilepsy	0	2	0	0	0	0	0
Erbs Palsy	1	0	0	0	0	0	0
Hemiplegia	0	0	0	1	1	0	0
Hypertension	0	0	0	0	0	2	0
Mental Retardation	3	0	0	0	0	0	0
Multiple Sclerosis	0	0	0	0	1	0	0
Overage	0	0	0	0	0	0	2
Post Tuberculosis	0	0	0	1	1	0	0
Post Polio	0	1	0	0	0	0	0
Post Operative	0	0	0	1	0	1	0
Paraplegia	0	1	0	0	0	1	0
Psychiatric	0	1	1	2	0	0	0
Traumatic Injury	0	2	3	0	0	0	0
Misc. Diseases	0	0	1	1	0	1	0
Totals	23	10	6	12	12	10	2

the age of forty. Several of the disabilities, however, did indicate a mixed pattern relative to age at onset of disability.

While the vast majority of the subjects of this study were under forty at the onset of disability, the differential between the number under forty and the number over forty had narrowed by the time they were employed at Rehabilitation Industries, Inc. As Table 7 shows, there were only fifty-three per cent, or forty cases, under forty and forty-seven

TABLE 7.--Age at employment at Rehabilitation Industries, Inc.

Disability	Total Cases	AGES						
		Under 20	20 29	30 39	40 49	50 59	60 69	70 79
Amputee	4	0	0	0	3	0	1	0
Anatomical Defects	2	0	0	2	0	0	0	0
Arthritis	5	0	0	0	2	2	1	0
Back Injury	9	0	1	4	3	0	1	0
Blindness	7	2	1	0	3	0	0	1
Cerebral Palsy	9	2	6	0	0	0	1	0
Cardiac	1	1	0	0	0	0	0	0
Cerebral Thrombosis	2	0	0	0	0	2	0	0
Deafness	4	2	1	0	0	1	0	0
Epilepsy	2	0	0	2	0	0	0	0
Erbs Palsy	1	1	0	0	0	0	0	0
Hemiplegia	2	0	0	0	2	0	0	0
Hypertension	2	0	0	0	0	2	0	0
Mental Retardation	3	3	0	0	0	0	0	0
Multiple Sclerosis	1	0	0	0	0	1	0	0
Overage	2	0	0	0	0	0	1	1
Post Tuberculosis	2	0	0	1	0	1	0	0
Post Polio	1	1	0	0	0	0	0	0
Post Operative	2	0	0	0	1	1	0	0
Paraplegia	2	0	1	0	0	1	0	0
Psychiatric	4	0	2	1	1	0	0	0
Traumatic Injury	5	0	3	2	0	0	0	0
Misc. Diseases	3	0	0	1	1	1	0	0
Totals	75	12	15	13	10	12	5	2

per cent, or thirty-five cases, over forty. There were seven cases beyond the sixty-year category and two of these were over seventy. Only twelve cases were under twenty and the majority of these were, for the most part, in work evaluation programs, or training programs in cooperation with high schools. There was a fairly even distribution among the other age brackets.

One-third of the cases were under thirty, with all of the cerebral palsy, three of the deafness, three of the traumatic injury, three of the blindness, and half of the psychiatric cases in this group. All three of the mental retardation cases were under twenty when hired by the Industries. Only twenty-five per cent of the cases were over fifty years old at the time of employment there.

On the basis of disability grouping, Table 8 gives a picture of the length of employment for each of the handicapped individuals formerly employed. While the work period by individuals ranged from less than one week to over four years, most of the employees, or sixty-three per cent, were employed for less than six months. In length of employment, the largest numbers of employees fall within brackets of three to six months and six to twelve months. Only seven of the discharged handicapped workers were employed for two years or more. In contrast, four of the present sixteen employees have been continuously employed for more than two years and two have been employed for four years or longer.

Table 9 shows the number of employees on the payroll at the end of each month. These are adjusted figures that incorporate within them the number of new employees hired and the number of terminations each month, to give the net figure at the end of the month.

Except for a decline in January, 1958, it shows a continued and steady rise in employment until the peak level was reached in October-November, 1959. On November 30, 1959,

TABLE 8.--Length of employment

Disability	0-1 Mo.	1-2 Mo.	2-3 Mo.	3-6 Mo.	6-12 Mo.	12-18 Mo.	18-24 Mo.	Over 24 Mo.
Amputee	0	0	0	1	2	0	0	1
Anatomical Defects	0	0	0	1	1	0	0	0
Arthritis	0	1	1	0	3	0	0	0
Back Injury	1	1	0	3	0	1	1	2
Blindness	1	1	0	4	0	0	0	1
Cerebral Palsy	0	0	5	1	0	2	0	1
Cardiac	0	0	0	0	1	0	0	0
Cerebral Thrombosis	1	0	0	0	0	0	0	1
Deafness	2	1	0	1	0	0	0	0
Epilepsy	0	1	1	0	0	0	0	0
Erbs Palsy	0	0	0	0	1	0	0	0
Hemiplegia	0	0	0	1	1	0	0	0
Hypertension	1	0	0	0	1	0	0	0
Mental Retardation	1	0	1	1	0	0	0	0
Multiple Sclerosis	0	0	0	0	1	0	0	0
Overage	0	0	0	0	2	0	0	0
Post Tuberculosis	1	0	0	1	0	0	0	0
Post Polio	0	0	0	1	0	0	0	0
Post Operative	0	0	1	1	0	0	0	0
Paraplegia	0	2	0	0	0	0	0	0
Psychiatric	1	0	0	0	3	0	0	0
Traumatic Injury	0	1	1	2	0	1	0	0
Misc. Diseases	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>
Totals	10	8	10	18	17	4	2	6

the lack of work forced a drastic forty-five per cent cut-back in employment. With only two exceptions, the employment level for each month since then had a downward trend. This trend is also evidenced by the average monthly total of employment for each year for employees during 1960 and through June of 1961.

Examination of the educational level attained by the discharged handicapped employees, Table 10, reveals that

TABLE 9.--Number of employees at month end for each year of operation

Month	1956	1957	1958	1959	1960	1961
January		5	14	16	25	17
February		3	15	19	25	18
March		4	18	22	16	17
April		7	18	23	17	16
May	4	8	18	26	17	14
June	6	11	18	27	17	14
July	4	11	19	28	18	
August	6	12	19	29	12	
September	5	18	19	31	12	
October	6	20	19	37	12	
November	6	24	21	21	13	
December	6	24	19	23	18	
Average Monthly Totals	5.375	12.25	18.08	25.17	16.83	16.0

twenty-eight individuals, or thirty-seven per cent, were high school graduates or better. Seven of the cases had training beyond the high school level and two of the seven were college graduates. The table shows twenty-six individuals with an eighth grade, or less, education, forty-one with some high school education to high school graduation, and seven with training beyond the high school. The average level attained by these discharged handicapped workers was approximately the 9.6 grade level. The younger workers tended to have a higher level of education than the older workers. Of those attaining the twelfth grade level, four were from the school for the blind. On the whole, however, each of

TABLE 10.--Educational level by grade and disability

Disability	Total Cases	0-6	7	8	9	10	11	12	13	14	15	16
Amputee	4	1	1	1	1	0	0	0	0	0	0	0
Anatomical Defects	2	0	0	0	0	0	0	2	0	0	0	0
Arthritis	5	0	1	1	0	1	0	2	0	0	0	0
Back Injury	9	0	1	0	0	1	0	4	1	2	0	0
Blindness	7	0	1	0	0	2	0	4	0	0	0	0
Cerebral Palsy	9	0	1	2	1	1	0	3	0	1	0	0
Cardiac	1	0	0	0	0	0	0	1	0	0	0	0
Cerebral Thrombosis	2	0	0	2	0	0	0	0	0	0	0	0
Deafness	4*	1	1	0	1	0	0	0	0	0	0	0
Epilepsy	2	0	1	0	0	0	0	0	0	0	0	1
Erbs Palsy	1	0	0	0	0	0	0	1	0	0	0	0
Hemiplegia	2	0	0	1	0	0	0	1	0	0	0	0
Hypertension	2	0	0	0	0	2	0	0	0	0	0	0
Mental Retardation	3	1	0	1	1	0	0	0	0	0	0	0
Multiple Sclerosis	1	0	0	0	1	0	0	0	0	0	0	0
Overage	2	1	0	1	0	0	0	0	0	0	0	0
Post Tuberculosis	2	0	0	0	0	2	0	0	0	0	0	0
Post Polio	1	0	0	0	0	0	0	1	0	0	0	0
Post Operative	2	0	0	0	0	1	0	0	1	0	0	0
Paraplegia	2	0	1	0	0	1	0	0	0	0	0	0
Psychiatric	4	0	1	1	1	0	1	0	0	0	0	0
Traumatic Injury	5	0	0	2	0	0	1	2	0	0	0	0
Misc. Diseases	3	1	0	0	1	0	0	0	0	0	0	1
Totals	75	5	9	12	7	11	2	21	2	3	0	2

* Information on one case not available.

the disability groups showed a distribution of the individuals among the various grade levels.

Table 11 shows, by grade level, the number of former disabled employees who have been drawing welfare since their discharge, as well as the number who have not drawn welfare. Of the twenty-six individuals who had an eighth grade, or less, level of education, eight, or thirty-one per cent,

TABLE 11.--Educational level by grade and receipt of welfare

Grade	Number Cases	Drawing Welfare Before R.I.*	Drawing Welfare at R.I.*	Drawing Welfare After R.I.*	Drawing no Welfare Since R.I.*
4 & under	3	2	2	2	1
5	0	0	0	0	0
6	2	0	0	0	2
7	9	2	4	4	5
8	12	2	3	2	10
9	7	1	1	1	6
10	11	0	2	2	9
11	2	0	0	0	3
12	21	3	3	4	18
13	2	0	0	0	2
14	3	1	1	1	2
15	0	0	0	0	0
16	2	0	0	0	2
Not Given	1	1	1	1	0
Totals	75	12	17	17	58

*Rehabilitation Industries, Inc.

were drawing welfare and eighteen were not. There were forty-three handicapped in the ninth through twelfth grade groups and of these, seven, or sixteen per cent, have been drawing welfare since their discharge. There were seven in the educational group beyond the high school, and of these, one, or fourteen per cent, has drawn welfare since discharge. These figures would suggest that those former handicapped employees of Rehabilitation Industries, Inc., who had an education of eighth grade, or less, were more likely to be on welfare than those who attained beyond the eighth grade.

Table 12 indicates shop wages by the month paid to

TABLE 12.—Shop wages by month from time of opening to time of study

	1957	1958	1959	1960	1961
January	\$	\$3,519.92	\$2,449.14	\$2,950.03	\$2,319.46
February		2,143.68	2,445.50	3,147.53	2,627.26
March		2,373.99	3,076.75	3,185.23	3,296.54
April	700.97	2,587.85	4,435.98	2,421.82	2,132.49
May	1,124.88	3,259.51	3,672.56	2,569.37	2,392.38
June	1,180.63	2,526.46	3,639.66	3,148.24	2,613.12
July	1,312.23	2,566.19	4,909.18	2,515.27	
August	1,888.94	2,844.32	3,570.17	2,165.80	
September	1,868.80	2,000.54	3,610.46	2,823.81	
October	3,353.00	3,817.72	5,738.80	1,908.42	
November	3,215.39	3,074.44	4,022.58	2,094.95	
December	3,525.87	2,974.02	3,419.28	3,242.89	
Totals	\$18,170.71	\$34,318.64	\$45,190.06	\$32,193.36	\$15,581.25

former handicapped employees. Total wages paid have varied from the present rate of about \$2500.00 per month to over \$5700.00 per month during the peak period of employment in 1959.

Employee Evaluations of Rehabilitation Industries, Inc.

As part of the study each of the former disabled employees contacted was asked to express how he felt about Rehabilitation Industries, Inc., and about his experiences while working there. Table 13 shows the response pattern by disability groups. Of those responding, eighteen expressed attitudes which could be classified as distinctly

TABLE 13.--Employee attitude toward Rehabilitation Industries, Inc.

Disability	Total Cases	Favorable	Unfavorable	Mixed	No response
Amputee	4	0	0	2	2
Anatomical Defects	2	0	0	2	0
Arthritis	5	2	0	3	0
Back Injury	9	1	2	6	0
Blindness	7	1	0	4	2
Cerebral Palsy	9	1	0	4	4
Cardiac	1	0	1	0	0
Cerebral Thrombosis	2	1	0	0	1
Deafness	4	2	1	0	1
Epilepsy	2	1	0	0	1
Erbs Palsy	1	0	0	1	0
Hemiplegia	2	0	0	2	0
Hypertension	2	2	0	0	0
Mental Retardation	3	2	0	0	1
Multiple Sclerosis	1	0	0	1	0
Overage	2	0	0	1	1
Post Tuberculosis	2	1	0	0	1
Post Polio	1	1	0	0	0
Post Operative	2	1	0	1	0
Paraplegia	2	1	0	0	1
Psychiatric	4	1	0	2	1
Traumatic Injury	5	0	0	2	3
Misc. Diseases	3	0	0	1	2
Totals	75	16	4	32	21

favorable, and four expressed attitudes which could be classified as distinctly negative. The other thirty-two expressed mixed responses, which included both favorable and unfavorable reactions. The twenty-one cases in the "no responses" category included the ten individuals outside the interview area, the four deceased cases, the four individuals who could not be located, the two who refused to be interviewed, and one individual who declined to comment.

A more detailed picture of the attitudes expressed is presented in Table 14, where reactions have been tabulated into response categories. While the majority of those responding expressed both favorable and unfavorable evaluations, there was a total of forty responses that could be classified as positive. Most of these were related to two different reactions. These were a general feeling expressed in "liked working there" and evidences of appreciation for "training and work adjustment" and other "opportunities for handicapped" at the Industries.

Examination of the negative expressions reveals that, while a number were distinctly unfavorable, many of the responses might be categorized as more evaluative and as pointing to possible areas for improvement in operation. More specifically, the largest numbers of responses, according to tabulations within the categories, indicate that many of these persons felt that work and training experiences provided were inadequate and wages for the amount of work expected were too low.

TABLE 14.—Expressed employee attitudes toward experiences at
Rehabilitation Industries, Inc.

<u>Positive Expressions</u>	
Liked working at Rehabilitation Industries, Inc	23
Workers were understanding	1
Provided training and work adjustment opportunities	7
Provided opportunity for handicapped to work	5
An aid to finding employment	1
Liked first manager	2
Liked second manager	1
 <u>Negative Expressions</u>	
Disliked first manager	2
Disliked second manager	4
Poor management	9
Need of business manager	1
Need for social worker for employees	1
Management lacked understanding of handicapped	1
Administrative interference	1
Provides inadequate work and training experiences	10
Train more handicapped and retain fewer employees	1
Hire handicapped rather than skilled non-handicapped	1
Lack of suitable jobs for handicapped	3
Wages too low for amount of work expected	13
Poor physical conditions of facility (heat, light, dirt)	3
Personality clashes among employees	3
Overcharging of customers	3
Carrying materials into and out of shop	3
Transportation difficulty in reaching work	2
Drinking, especially on payday	2
Workers putting jobs off on few workers *	1

* Warned by management for this practice.

CHAPTER V

ANALYSIS OF THE DATA

Introduction

The present chapter is concerned with an analysis of the data of this study. The information is presented by means of frequency tables and by discussion and analysis of the significance of the information. In all instances the objective is to indicate the kind of relationship existing between the information being presented and the post-service placement that has taken place.

Analysis

Table 15 presents a composite picture showing, by disability group the type of employment program provided and the type of post-service placement made. The left half of the table contains information indicating by disability group the type of in-service program pursued. The right half shows by disability group the type of post-service placement that was made. The next tables to follow indicate in greater detail the relationship between the particular type of program and the post-service placement.

Examination of Table 15 in greater detail shows in general a non-patterned distribution of the type of in-service programs among the disability groups. This indicates that the particular program was on the basis of individual requirement rather than on the basis of disability group. The terminal employment and the transitional employment programs,

TABLE 15.—Type of in-service program by disability group and type of post-service placement

Disability	No. Cases	Terminal	Trans- itional	Evalu- tion	Adjust- ment	Training
Amputee	4	2	1	0	1	0
Anatomical Defects	2	2	0	0	0	0
Arthritis	5	1	0	0	1	3
Back Injury	9	1	4	1	1	2
Blindness	7	2	1	1	1	2
Cerebral Palsy	9	1	2	1	3	2
Cardiac	1	1	0	0	0	0
Cerebral Thrombosis	2	1	0	0	1	0
Deafness	4	0	2	0	2	0
Epilepsy	2	0	2	0	0	0
Erb's Palsy	1	0	0	0	0	1
Hemiplegia	2	0	1	0	1	0
Hypertension	2	0	2	0	0	0
Mental Retardation	3	0	0	2	1	0
Multiple Sclerosis	1	1	0	0	0	0
Overage	2	2	0	0	0	0
Post Tuberculosis	2	1	0	1	0	0
Post Polio	1	0	0	0	0	1
Post Operative	2	0	1	0	1	0
Paraplegia	2	0	1	0	0	1
Psychiatric	4	2	1	1	0	0
Traumatic Injury	5	2	2	0	0	1
Misc. Diseases	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Totals	75	21	21	7	13	13

TABLE 15.--Continued

No. Cases	Competitive Employment			Sheltered Employment		Not Now Working	Have Not Worked	Not Known	Deceased
	Full Time	Part Time	Odd Jobs	Full Time	Part Time				
4	0	1	0	0	0	0	1	1	1
2	0	0	1	0	0	0	1	0	0
5	1	0	0	0	0	2	2	0	0
9	1	2	3	1	0	2	0	0	0
7	2	2	0	1	0	0	1	0	1
9	4	0	0	0	2	1	2	0	0
1	0	0	1	0	0	0	0	0	0
2	1	0	0	0	0	0	1	0	0
4	2	1	0	0	0	0	0	0	1
2	0	1	0	0	0	0	1	0	0
1	0	1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	2	0	0
2	2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	2	1	0
1	0	0	0	0	0	0	1	0	0
2	0	1	0	0	0	0	1	0	0
2	1	0	0	0	0	0	0	1	0
1	1	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	0
2	0	0	0	1	0	0	1	0	0
4	1	0	1	0	1	0	1	0	0
5	3	0	0	0	0	1	0	1	0
3	1	0	0	0	0	0	1	0	1
75	22	9	6	3	3	6	18	4	4

as could be expected, were the larger ones with each program involving twenty-eight per cent of the total cases or twenty-one cases each. The work adjustment and the training programs were next with thirteen cases each or seventeen per cent of the total handicapped employed. The work evaluation program, designed to measure the work potential of the handicapped individual, involved only seven, or nine per cent, of the total cases.

Looking at the right side of Table 15, again there is a general non-patterned distribution in the type of post-service placement among the disability groups. Examination shows that twenty-two, or twenty-nine per cent, are working full time in competitive employment, nine, or twelve per cent are working part time, and six, or eight per cent of the total cases, are working sporadically at odd jobs. Six of the former employees are now working in sheltered employment, three on a full time basis and three on a part time basis. Including both competitive and sheltered employment, one-third of the handicapped former employees are now working full time and twelve, or sixteen per cent, are working on a part time basis.

Approximately one-third, or twenty-four, of those who formerly worked at Rehabilitation Industries, Inc., are no longer employed. Six individuals, or eight per cent, worked for a time but are no longer working and eighteen others or twenty-four per cent, have not worked since they left Rehabilitation Industries, Inc.

Of the total of seventy-five disabled former employees, forty-three, or fifty-seven per cent, are gainfully employed to some degree and only twenty-four, or thirty-two per cent, are not working. Four of the former employees are now deceased and four could not be located.

Table 16 is a further breakdown of Table 15 to show by disability the post-service placement of those former workers who were on terminal programs. It should be noted that nearly half of the twenty-one cases are now working, but only four in full time employment. Of these four, two are married and two are working as janitors in a hospital.

Examination of the placements by disability groups reveals that, of the two amputees, one is now working on a part time basis and one is now deceased, but continued to work at Rehabilitation Industries, Inc., up until the time of his death.

Both of the cases with anatomical defects were on terminal employment. One does mostly odd job typing and the other is drawing welfare and has not worked. There is some employer resistance to the latter because of his physical appearance, according to medical records.

The arthritic case is not now working because of physical deterioration.

The back injury case is only one of nine such cases and is presently doing carpentry work on a part time basis.

There were two cases of blindness and one is now working full time in a laundry, while the second is now deceased.

TABLE 16.--Former employees on terminal programs by disability and type of post service placement

Disability	No. Cases	Competitive Employment			Sheltered Employment		Not Now Have		Not Known	De- ceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time	Work- ing	Not Worked		
Amputee	2	0	1	0	0	0	0	0	0	1
Anatomical Defects	2	0	0	1	0	0	0	1	0	0
Arthritis	1	0	0	0	0	0	1	0	0	0
Back Injury	1	0	1	0	0	0	0	0	0	0
Blindness	2	1	0	0	0	0	0	0	0	1
Cerebral Palsy	1	0	0	0	0	0	0	1	0	0
Cardiac	1	0	0	1	0	0	0	0	0	0
Cerebral Thrombosis	1	0	0	0	0	0	0	1	0	0
Multiple Sclerosis	1	0	0	0	0	0	0	1	0	0
Overage	2	0	1	0	0	0	0	1	0	0
Post Tuberculosis	1	1	0	0	0	0	0	0	0	0
Psychiatric	2	0	0	0	0	1	0	1	0	0
Traumatic Injury	2	1	0	0	0	0	1	0	0	0
Misc. Diseases	2	1	0	0	0	0	0	0	0	1
Totals	21	4	3	2	0	1	2	6	0	3

The Cerebral Palsy case is now not working, but drawing social security.

The cardiac case is working at odd jobs. While he indicates an interest in steady work, the evaluation at his termination indicated limited work potential and the requirement of close supervision.

The cerebral thrombosis case left Rehabilitation Industries, Inc., to draw social security and has not worked since, and the same is true of the case of multiple sclerosis.

Of the two persons who were overage when they were hired, one is now working part time and drawing social security. The other is in a hospital for the aged.

The post tuberculosis was the first employee and is now working full time as a janitor.

Two of the psychiatric cases were terminal employees and since their discharge one has been working part time in sheltered work while the other has been in and out of a hospital for the mentally disturbed and has not worked.

One of the two traumatic injury cases has married since her termination. The other is on a sizeable pension and no longer working, although he did work part time until his pension became available.

One of the two miscellaneous diseases cases is also married and, therefore, is herein indicated as employed full time. The other is now deceased, but he had continued working until his death.

The post-service employment of these terminal cases may be due, in part, to misclassification, since the basis was arbitrarily set at twenty weeks employment, unless there was evidence to indicate otherwise. It also suggests a development of work potential through continued employment over a long period of time.

Table 17 is also a further breakdown of Table 15 to show the relationship between those former employees on transitional employment and their post-service placement. Since those on transitional employment are working toward competitive employment, it is not surprising to note that eleven of the cases are working full time, including the one in sheltered employment and only five are not now working.

TABLE 17.--Former employees on transitional program by disability and type of post service placement

Disability	No Cases	Competitive Employment			Sheltered Not Employment Now			Have		De-
		Full Time	Part Time	Odd Jobs	Full Time	Part Time	Work- ing	Not Worked	Not Known	
Amputee	1	0	0	0	0	0	0	0	1	0
Back Injury	4	1	0	2	0	0	1	0	0	0
Blindness	1	0	0	0	0	0	0	1	0	0
Cerebral Palsy	2	2	0	0	0	0	0	0	0	0
Deafness	2	2	0	0	0	0	0	0	0	0
Epilepsy	2	0	1	0	0	0	0	1	0	0
Hemiplegia	1	0	0	0	0	0	0	1	0	0
Hypertension	2	2	0	0	0	0	0	0	0	0
Post Operative	1	1	0	0	0	0	0	0	0	0
Paraplegia	1	0	0	0	1	0	0	0	0	0
Psychiatric	1	1	0	0	0	0	0	0	0	0
Traumatic Injury	2	1	0	0	0	0	0	0	1	0
Misc. Diseases	1	0	0	0	0	0	0	1	0	0
Totals	21	10	1	2	1	0	1	4	2	0

The one amputee case could not be located. Of the four back injury cases, one is working full time, two have occasional odd jobs. One of the two doing odd jobs has her children to look after and the other claims his back doesn't permit steady work. The fourth case is no longer working because his condition became worse and he is now on social security. The blindness case now has the complications of arthritis and he has not worked since he left Rehabilitation Industries, Inc.

Both of the Cerebral Palsy cases are now working full time as janitors. One of the two deafness cases worked only a few days at The Industries but has been continuously employed since he left. The other case is now married and

taking care of her family.

Both of the epilepsy cases worked only a short time. The condition of both has become worse since their discharge, so that one is working only part time and the other has not worked. The Hemiplegia case has not worked since being laid off from Rehabilitation Industries, Inc.

Both of the hypertension cases and the post operative case are working full time. The case of paraplegia worked for only a short time then took a full time job in a sheltered workshop. The psychiatric case was hired as a machine operator and is now working full time. One of the traumatic injury cases could not be located and the other has full time employment. The miscellaneous diseases case has not worked since his discharge and is now on a pension and does not want work.

Table 18 shows the placement of those who were on evaluation programs while employed. Of these cases, the back injury case is presently in school and not working. The blindness case is working full time in a sheltered shop. The Cerebral Palsy case has a severe imbalance condition and has not worked since discharge. The two mentally retarded cases were found to be unsuited for competitive employment. They have not worked since the termination of their program. The post tuberculosis case could not be located and the psychiatric case shows evidence of withdrawnness and has had only odd jobs since discharge.

TABLE 18.--Former employees on evaluation programs by disability and type of post service placement

Disability	No. Cases	Competitive Employment			Sheltered Employment		Not Work- ing	Not Have Not Known De-		
		Full Time	Part Time	Odd Jobs	Full Time	Part Time		Worked	Known	ceased
Back Injury	1	0	0	0	0	0	1	0	0	0
Blindness	1	0	0	0	1	0	0	0	0	0
Cerebral Palsy	1	0	0	0	0	0	0	1	0	0
Mental Retardation	2	0	0	0	0	0	0	2	0	0
Post Tuberculosis	1	0	0	0	0	0	0	0	1	0
Psychiatric	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Totals	7	0	0	1	1	0	1	3	1	0

Table 19 shows the placement of those former workers who were on work adjustment programs in order to develop greater work tolerance or acceptable work habits. Of the thirteen cases, seven, or over half, are employed either part time or full time. Only four of the cases are not working. The amputee case has not worked since discharge, but shows a history of a poor work pattern and receipt of welfare. The condition of the arthritis case became worse while employed, forcing him to leave and he has not worked since. The back injury and blindness cases are both working part time. Of the three cerebral palsy cases one is working full time, one has a part time job in a sheltered shop and one, who has a private income from an estate, has not worked since discharge. The cerebral thrombosis case has returned to full time work. One of the deafness cases is now deceased and the other is working part time. The hemiplegia case has not worked since discharge and the mental retardation case

TABLE 19.—Former employees on work adjustment programs by disability and type of post service placement

Disability	No. Cases	Competitive Employment			Sheltered Employment		Not Work- ing	Have Not Worked	Not Known	De- ceased
		Full	Part	Odd	Full	Part				
		Time	Time	Jobs	Time	Time				
Amputee	1	0	0	0	0	0	0	1	0	0
Arthritis	1	0	0	0	0	0	0	1	0	0
Back Injury	1	0	1	0	0	0	0	0	0	0
Blindness	1	0	1	0	0	0	0	0	0	0
Cerebral Palsy	3	1	0	0	0	1	1	0	0	0
Cerebral Thrombosis	1	1	0	0	0	0	0	0	0	0
Deafness	2	0	1	0	0	0	0	0	0	1
Hemiplegia	1	0	0	0	0	0	0	1	0	0
Mental Retardation	1	0	0	0	0	0	0	0	1	0
Post Operative	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Totals	13	3	3	0	0	1	1	3	1	1

cannot be located. The post operative case has returned to full time employment.

Table 20 is the last of the five table breakdown of Table 15 and shows the post-service placement of those who were on training programs while employed. As might be expected, ten of the thirteen cases are gainfully employed and only three are not working in each case because of physical condition. Of the three arthritis cases, one is working full time. Of the other two arthritic cases, the physical condition of one became worse so he had to terminate his training employment. He has not worked since, and is now on a pension. The other worked for a time after discharge but was forced to quit because of a worsening physical condition.

Of the two back injury cases, one is working full time

TABLE 20.--Former employees on training programs by disability and type of post-service placement

Disability	No. Cases	Competitive Employment			Sheltered Not Employment Now			Have		De-
		Full Time	Part Time	Odd Jobs	Full Time	Part Time	Work- ing	Not Worked	Not Known	
Arthritis	3	1	0	0	0	0	1	1	0	0
Back Injury	2	0	0	1	1	0	0	0	0	0
Blindness	2	1	1	0	0	0	0	0	0	0
Cerebral Palsy	2	1	0	0	0	1	0	0	0	0
Erbs Palsy	1	0	1	0	0	0	0	0	0	0
Post Polio	1	1	0	0	0	0	0	0	0	0
Paraplegia	1	0	0	0	0	0	0	1	0	0
Traumatic Injury	1	1	0	0	0	0	0	0	0	0
Totals	13	5	2	1	1	1	1	2	0	0

in a sheltered shop while the other has had only odd jobs. The two blindness cases are both working, one part time and the other full time. One of the two cerebral palsy cases is working full time and the other part time in a sheltered shop. The erbs palsy case is now working part time. Both the post polio and the traumatic injury cases are working full time while the paraplegia case has not worked since he was forced by his physical condition to leave Rehabilitation Industries, Inc.

The most successful in-service program in terms of the number of handicapped workers who were placed in employment was the training program. All were employed part or full time except the three whose physical condition became worse thus preventing them from working and the one case working at odd jobs. The next most successful program was the transitional work program. Here two-thirds of the employees

found remunerative work after termination of their services. Over half of the workers on the terminal and the work adjustment programs also were employed after their discharge. Only in the evaluative program were there more unemployed than employed individuals subsequent to their discharge.

Examination of Table 15 and the supplementing tables suggests that of the disability groups served, there were six which showed a greater degree of placement than the rest. There were, by contrast, four disability groups that showed a low level of placement in terms of the numbers served. The remaining thirteen categories were inconclusive either because the division between those employed and those not employed was about equal or there were too few cases in the category.

The most successful groups in terms of those working full or part time were:

Blindness	- five working out of seven cases
Cerebral Palsy	- six working out of nine cases
Deafness	- three working out of four cases
Post operative	- two working out of two cases
Psychiatric	- two working out of four cases
Misc. Diseases	- two working out of three cases

The least successful disability groups were:

Anatomical defects	- none out of two cases working
Arthritis	- one out of five cases working
Hemiplegia	- none out of two cases working
Mental Retardation	- none out of three cases working

The next area of consideration is that of the particular type of work performed by the handicapped workers and the type of placement made. This is shown in Table 21, in which the assigned category was the major type of work done even

TABLE 21.--Type of in-service work and type of post-service placement

Type of Work	No. Cases	Competitive Employment			Sheltered Employment		Not Now Work- ing	Have Not Worked		Not Known	De- ceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time		Not Worked	Known		
Assembly	5	2	0	1	0	0	2	0	0	0	
Furniture Repair	7	1	1	2	0	0	0	2	0	1	
General Labor	20	5	3	1	1	1	2	5	2	0	
Janitor	3	1	0	0	0	1	1	0	0	0	
Machine Operator	2	1	0	0	0	0	0	1	0	0	
Metal Sorting	1	0	0	1	0	0	0	0	0	0	
Office	7	4	1	0	0	0	1	1	0	0	
Packaging	3	2	0	1	0	0	0	0	0	0	
Painting	2	0	1	0	0	0	0	1	0	0	
Repairing	2	2	0	0	0	0	0	0	0	0	
Sanding	4	0	0	0	0	1	0	2	0	1	
Sewing	1	0	0	0	0	0	0	0	0	1	
Truck Driving	3	1	1	0	0	0	0	0	1	0	
Upholstry	12	3	1	0	2	0	0	5	0	1	
Wood Working	3	0	1	0	0	0	0	1	1	0	
Totals	75	22	9	6	3	3	6	18	4	4	

though the individual might also have done other work while employed. Again, there is a general distribution in the pattern of placement in relation to the particular types of work performed by the handicapped worker.

General labor was the largest single work category and included the work evaluation and many of the work adjustment cases. There were twenty handicapped workers assigned work in this category. The next largest work group was in upholstery with twelve handicapped workers, while furniture repair and office work followed with seven workers each. The rest of the work categories contained anywhere from one to five workers.

The types of work showing the highest proportion of

employment placement were:

Janitors	-	two working out of three cases
Office	-	five working out of seven cases
Packaging	-	two working out of three cases
Repairing	-	two working out of two cases
Truck driving	-	two working out of three cases

Sanding work proved least successful as an avenue to employment placement with only one working out of four cases. In the remainder of the work categories there was either only one case indicated or the number of cases working balanced the number of cases not working. However, the two largest categories, general labor and upholstery, could be indicated as successful work types. For these, when the unemployed cases are examined for the specific reason for not working, it is found that the cause lies beyond the control of Rehabilitation Industries, Inc. Of the twelve cases not working in these two work categories, three were hospitalized, two were experiencing physical deterioration, two were on pensions, and work was not deemed feasible for two. In addition, one had sufficient private income, one had a poor work history, and one was in school.

Another area examined for its influence upon the post-service placement was the length of time each employee worked at Rehabilitation Industries, Inc. This is shown in Table 22. Examination of the table reveals that the median stay was three to six months with sixty-one per cent, or forty-six cases working for less than six months. Of those who worked less than one month only three of the ten cases were employed, while of those who worked between one and

TABLE 22.—Length of Rehabilitation Industries employment and post-Rehabilitation Industries, Inc. placement

Months	No. Cases	<u>Competitive Employment</u>			<u>Sheltered Employment</u>		Not Work- ing	Have Not Worked	Not Known	De- ceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time				
0-1	10	3	0	1	0	0	1	2	1	2
1-2	8	4	1	0	1	0	1	1	0	0
2-3	10	6	0	0	0	1	1	2	0	0
3-6	18	4	2	3	1	1	1	3	3	0
6-12	17	3	3	2	0	1	1	7	0	0
12-18	4	1	1	0	0	0	1	1	0	0
18-24	2	0	1	0	0	0	0	0	0	1
Over 24	6	1	1	0	1	0	0	2	0	1
Totals	75	22	9	6	3	3	6	18	4	4

three months, better than seventy per cent were in full or part time work placement. Beginning with those who worked from three to six months, the percentages of work placements drop inverse to the length of stay. The respective percentages are sixty-one per cent up to six months, fifty-three per cent up to twelve months and fifty per cent for those who worked more than six months.

Table 23 shows the types of work experiences the former workers had before they were employed by Rehabilitation Industries, Inc., and the type of post-service placement in each of the sixteen work categories. Examination of the table reveals that twenty-four per cent, or eighteen cases, had a varied experience with jobs that best fit the category "general laborer." Another sixteen per cent, or twelve cases, had had no prior work experience. Ten of the employees had had upholstery work experience, nine were factory workers,

TABLE 23.--Pre-service work experience and post-service type of placement

Type of Work	No. Cases	Competitive Employment			Sheltered Employment			Not Now Have		
		Full Time	Part Time	Odd Jobs	Full Time	Part Time	Working	Not Worked	Not Known	Deceased
None	12	5	1	0	0	2	1	3	0	0
Construction Worker	1	0	0	0	0	0	1	0	0	0
Day Work	1	1	0	0	0	0	0	0	0	0
Factory Worker	9	4	0	0	1	0	2	1	0	1
Furniture Repair	1	0	0	1	0	0	0	0	0	0
Janitor	1	0	0	0	0	1	0	0	0	0
General Laborer	18	2	4	3	1	0	1	6	1	0
Machine Operator	4	2	0	0	0	0	0	1	1	0
Odd Jobs	8	1	1	2	0	0	0	2	2	0
Office Work	5	3	1	0	0	0	1	0	0	0
Painter	1	0	0	0	0	0	0	1	0	0
Route Man	1	0	0	0	0	0	0	0	0	1
Sewing	1	0	0	0	0	0	0	0	0	1
Store Clerk	1	1	0	0	0	0	0	0	0	0
Truck Driver	1	0	1	0	0	0	0	0	0	0
Upholstery	<u>10</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>1</u>
Totals	75	22	9	6	3	3	6	18	4	4

eight had done odd jobs, five had office experience and four were machine operators before they were employed. The other nine work categories had only one person each.

All ten of the persons with experience in upholstery work were assigned the same kind of work after employment at Rehabilitation Industries, Inc. Similarly, four of the five workers with office experience were given office work to do, two of the machine operators were assigned machine operation. Also, given the same kind of work as the pre-service experience was the factory worker who had done packaging work, the furniture repair person, the painter and the sewing person. Twenty, or twenty-seven per cent, of the workers

were assigned work similar to their pre-service work experience.

Based upon the classification of the Dictionary of Occupational Titles, Bureau of Labor Statistics, United States Department of Labor, 1949 edition, the pre-service work experience of the former workers shows two with professional training, three with clerical and sales, one with service, twelve at the skill trade level, thirteen at the semi-skilled level, and forty-four, or fifty-nine per cent, at the unskilled level.

Further examination of the table for employment, full or part time, shows that eight out of twelve former workers with no previous work experience are now working. Of those with previous work experience, five out of the nine factory workers are employed full or part time. This is true also for four out of five of the office workers, and five out of ten of the upholstery workers. On the other hand, only two of those who did odd jobs and only seven of those with general labor experience are now working.

As indicated in Table 10 of the previous chapter, the grade level attained by these former workers averaged about half way through the ninth grade with twenty-eight having a high school or better level of education. Table 24 presents a breakdown by attained school grade level and the post-service type of placement for each grade shown. Of the twenty-one who were high school graduates, fourteen are employed part or full time, four at odd jobs, and only three

TABLE 24.—Attained educational level and type of post-service placement

Educational Grade Level	No. Cases	Competitive Employment			Sheltered Employment		Not Work- ing	Have		De- ceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time		Not Worked	Not Known	
4th grade and under	3	0	0	0	0	0	0	3	0	0
5th grade	0	0	0	0	0	0	0	0	0	0
6th grade	2	0	2	0	0	0	0	0	0	0
7th grade	9	1	1	0	1	0	1	4	0	1
8th grade	12	4	0	0	0	1	1	4	1	1
9th grade	7	1	0	1	0	1	0	2	1	1
10th grade	11	4	2	0	1	0	1	2	1	0
11th grade	2	1	0	0	0	0	0	0	1	0
12th grade	21	9	3	4	1	1	0	3	0	0
13th grade	2	1	0	0	0	0	1	0	0	0
14th grade	3	0	0	1	0	0	2	0	0	0
16th grade	2	1	1	0	0	0	0	0	0	0
Grade not given	1	0	0	0	0	0	0	0	0	1
Totals	75	22	9	6	3	3	6	18	4	4

are not employed. The two college graduates are also employed. One of the two who reached the eleventh grade is known to be employed, the other one could not be located. Of the eleven who completed the tenth grade, seven are employed, and five out of eight of the eighth grade graduates are employed. Of the twenty-eight with a high school education or better only six are not working. Of the twenty between the eighth and twelfth grades only five are known to be not working and three could not be located. Of the twenty-six below a ninth grade education, thirteen are not working, one could not be located and two are deceased.

Table 25 presents information related to the age of onset of the disability and post-service placement. Of the total cases handled, twenty-three, or nearly one-third had

TABLE 25.—Age at onset of disability and type of post-service placement

Age in Years	No. Cases	Competitive			Sheltered		Not	Have Not Worked	Not Known	De- ceased
		Employment			Employment		Now			
		Full Time	Part Time	Odd Jobs	Full Time	Part Time	Work- ing			
Birth	23	7	4	2	1	2	1	5	1	0
1-19 years	10	3	1	1	1	1	0	2	1	0
20-29 years	6	3	0	0	0	0	2	1	0	0
30-39 years	12	3	2	3	0	0	1	3	0	0
40-49 years	12	1	1	0	1	0	2	5	2	0
50-59 years	10	5	0	0	0	0	0	1	0	4
60-69 years	2	0	1	0	0	0	0	1	0	0
Totals	75	22	9	6	3	3	6	18	4	4

the onset of disability at birth, and another ten had the onset before the age of twenty. Thus, a total of thirty-three cases, or forty-four per cent, of the cases employed had the onset of disability before the age of twenty. A total of fifty-one cases, or sixty-eight per cent, were under forty years of age.

Examination of the table in relation to placement shows that of the thirty-three cases under twenty years of age, twenty or sixty per cent, are working. The twenty to forty age group had eight out of eighteen cases working, or forty-four per cent, and the over forty age group had nine out of twenty-four cases working, or thirty-seven per cent. In the group employed, there was only one percentage point difference between those with onset of disability at birth and those with onset of disability after birth, but before the age of twenty. The percentages were sixty-one and sixty per cent, respectively.

Table 26 presents information on the age of the former employees at the time of their employment and the subsequent type of post-service work placement. Examination of the table shows a rather even distribution in terms of numbers employed by Rehabilitation Industries, Inc., among all the age groups except the two older groups where the numbers employed drop off noticeably.

In terms of type of placement, the twenty to twenty-nine age group had seventy-three per cent now working. The under twenty age group and the sixty to sixty-nine age group had fifty-eight and sixty per cent, respectively, now working in part time or full time employment. The other age groups were all below fifty per cent working. When the group is divided into those under forty and those over forty at the time they were employed by Rehabilitation Industries, Inc., twenty-four, or sixty per cent, of the forty individuals who were under forty at the time of employment, are full time or part time employed. In contrast, of the thirty-five disabled in the over forty age group, only thirteen, or thirty-seven per cent, are now employed.

To see if any importance might be attached to the age differential between the onset of disability and the age at time of employment by Rehabilitation Industries, Inc., Table 27 was constructed. There appears to be no general pattern of the numbers in these various age differentials when they are applied to the former employees. In fact, they range all the way from five cases with less than one

TABLE 26.—Age at time of in-service employment and type of post-service placement

Age	No. Cases	Competitive Employment			Sheltered Employment		Not Now Work- ing	Have Not Worked	Not Known	De- ceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time				
Under 20	12	5	1	1	0	1	0	3	1	0
20-29	15	5	3	0	1	2	2	2	0	0
30-39	13	4	2	3	0	0	1	2	1	0
40-49	16	1	2	2	2	0	2	6	1	0
50-59	12	5	0	0	0	0	1	3	1	2
60-69	5	2	1	0	0	0	0	1	0	0
70 and over	2	0	0	0	0	0	0	1	0	0
Totals	75	22	9	6	3	3	6	18	4	4

year differential to six cases in which there are more than thirty years differential.

In terms of post-service placement, the under one year and the one-to-two year differentials show sixty per cent of their number employed. The twenty-to-twenty-nine year age differential group shows seventy-three per cent of the group members now full or part time employed. The other age differential groups show present employment of their members ranging from thirty to fifty-five per cent.

Since the disability of each handicapped worker tended to be either static or in an improved condition at the time of employment, it is not surprising to find few cases improve. It would be expected that the vast majority of the cases would show little change, with the probability that some cases would deteriorate. However, the inadequacy of detailed medical information, as previously indicated, precludes any attempt to determine an expected probability of change in a

TABLE 27.--Age differential between age at onset of disability and age at in-service employment as related to post-service placement

Age Differential	No. Cases	Competitive Employment			Sheltered Employment		Not Now Working	Have Not Worked		Not Known	Deceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time		Not Worked	Known		
Under 1 year	5	2	1	0	0	0	0	2	0	0	
1-2	5	2	0	0	1	0	1	1	0	0	
3-4	12	3	1	2	0	0	2	2	1	1	
5-7	10	2	1	1	0	0	1	4	0	1	
8-10	6	2	1	0	0	0	0	2	1	0	
11-14	6	2	0	1	0	0	1	0	1	1	
15-19	11	4	1	1	0	1	0	3	1	0	
20-29	11	3	3	0	1	1	1	2	0	0	
Over 30 years	6	1	1	1	1	0	0	2	0	0	
Undetermined	3	1	0	0	0	1	0	0	0	1	
Totals	75	22	9	6	3	3	6	18	4	4	

particular direction.

The changes in physical function, the direction of change, and the type of post-service employment are shown in Table 28. Five of the cases changed in the direction of improved physical condition, and all five of these cases are now employed. Sixteen of the cases, or twenty-one per cent, showed some deterioration in physical condition. Of these sixteen cases, four are now deceased, eleven are not working, and only one is employed on a part time basis. In this case the individual had to withdraw from full time to part time clerical work. The great majority of the cases, seventy-two per cent, show no appreciable change. Of this group, thirty-one are working part or full time, thirteen are not working, four couldn't be located and six are working at odd jobs. Of the thirteen who are not working, one is in school, one

TABLE 28.—Changes in physical fundction and type of post-service placement

Physical Condition	No. Cases	Competitive Employment			Sheltered Employment		Not Now Working	Have		Deceased
		Full Time	Part Time	Odd Jobs	Full Time	Part Time		Not Worked	Not Known	
Much Improved	2	2	0	0	0	0	0	0	0	0
Some Improved	3	2	1	0	0	0	0	0	0	0
No Change	54	18	7	6	3	3	3	10	4	0
Some Worse	9	0	1	0	0	0	2	6	0	0
Much Worse	7	0	0	0	0	0	1	2	0	4
Totals	75	22	9	6	3	3	6	18	4	4

has a private income from an estate, one has a poor work history, one, according to the medical record, has a physical appearance that causes employer resistance, two have conditions too severe to permit working, one is in a hospital for the aged, two are not mentally capable of holding a job, and four are retired on social security and pensions.

Table 29 shows the number by disability categories of handicapped who have been employed by Rehabilitation Industries, Inc. A total of 204 applications are presently on file. The largest single category of applications are those with no disability of whom eleven, including two of the present working force have been hired. In most of the disability categories there have been about equal numbers hired and not hired from the list of applicants. Only in the cases of blindness and cerebral palsy have there been appreciably more hired than not hired, and the majority of these were on one of the sponsored work programs. The categories with the

TABLE 29.—Number of applications by disability and number employed

Disability	Total Applications	Total Hired	Total Not Hired
Amputees	12	4	8
Anatomical Defects	5	2	3
Arthritis	10	5	5
Back Injury	19	10	9
Blindness	11	7	4
Cerebral Palsy	13	10	3
Cardiac	6	1	5
Cerebral Thrombosis	6	2	4
Deafness	9	4	5
Epilepsy	6	2	4
Erbs Palsy	1	1	0
Hemiplegia	2	2	0
Hypertension	2	2	0
Mental Retardation	9	4	5
Multiple Sclerosis	2	1	1
Overage	11	5	6
Post Tuberculosis	4	3	1
Post Polio	7	3	4
Post Operative	5	2	3
Paraplegia	4	3	1
Psychiatric	6	4	2
Traumatic Injury	15	6	9
Misc. Diseases	12	4	8
Lateral Sclerosis	1	1	0
Paralysis	3	1	2
No Disability	23	11	12
Totals	204	100*	104

*Includes 16 present employees.

number of applicants least often hired were the amputees, the cardiacs, traumatic injuries, and miscellaneous diseases.

In addition to those hired, the records show thirty-five applications for 1956, twenty-seven for 1956, nine for 1958, seven for 1959, sixteen for 1960, and four for the first half of 1961. There were six applications which carried no date of application. The record as a whole shows a decreasing trend in the number of applicants from the high

point in 1956 when Rehabilitation Industries, Inc., began operation up to the present time.

Table 30 presents the reasons for the termination of each of the former employees. Examination of the table reveals that twenty-one left for reasons of their own: two left to attend school, two left to return to their former employment, two left to collect their pension, and fifteen left to take another job. An additional eight were forced to leave because of illness. The largest single reason for involuntary withdrawal was lack of suitable work with sixteen handicapped laid off for this reason. Another ten were given temporary layoffs. Five were found not suitable for competitive employment, four reached the completion of their program, and two were fired. According to the records, only five of the handicapped former workers were placed in outside employment directly through the efforts of Rehabilitation Industries, Inc.

Summary of the Results

As previously mentioned, the incompleteness of the information contained in the records maintained by Rehabilitation Industries, Inc., presented difficulties in compiling and developing information used in this study. Some specific records such as continuing work evaluations and psychological evaluations on each worker were non-existent.

The small numbers of many of the disability and other evaluative categories made meaningful interpretation of some

TABLE 30.--Reason for job termination

Left to take other job	15
Left to attend school	2
Left to return to work	2
Left to collect pension	2
Illness	8
No suitable work	16
Temporary layoff	10
Unemployable	5
Placed on job	5
Program ended	4
Fired	2
Deceased	2
Reason not given	2

of the information difficult.

The majority of the seventy-five handicapped former workers were employed in and equally divided in numbers between terminal and transitional work programs. Of the work programs, the training and the transitional programs were the most successful in terms of the per cent of post-service employment. Of the thirteen who participated in the training program only three, or twenty-three per cent, who experienced a deterioration in physical condition, are not working. In the transitional program only five, or twenty-four per cent, are not working. This represents less than twenty-five per cent of the workers involved in these programs who were not placed in outside employment. Examination shows, generally, no pattern of placement of handicapped workers in specific work programs, indicating a fitting of the program to the need of the individual.

In relation to the total program forty-three, or

fifty-seven per cent, of the former workers are now employed. Six of this number are in sheltered employment. Only twenty-four, or thirty-two per cent, are not working. Of those not working, eight suffered physical deterioration and seven retired on disability pensions or social security. The reasons for not working in the other nine cases include: two for whom competitive work was not feasible, three who are hospitalized, one who experiences employer resistance, one with a poor work history and low educational level, one now in school, and one with a private income from an estate.

This information would indicate that in terms of returning the handicapped to employment, Rehabilitation Industries, Inc., has been successful. This becomes more meaningful when it is considered that all of these handicapped individuals had been unemployed at the time they were hired, and that twelve had had no previous work experience.

Those disability categories rated most successful and those rated least successful relative to the per cent of individuals in the group placed in outside employment were:

<u>Most successful</u>	<u>Least successful</u>
Blindness	Anatomical Defects
Cerebral Palsy	Arthritis
Deafness	Hemiplegia
Post Operative	Mental Retardation
Psychiatric	
Miscellaneous Diseases	

The type of work done while employed at Rehabilitation Industries, Inc., with the exception of office work and upholstery, seemed to have little relation to the post-service placement. There were both employment and non-employment placements in an unordered pattern from most of the work categories.

The length of the in-service work experience seems related to post-service employment in that those with the shorter work periods, at Rehabilitation Industries, Inc., one to three months in length, appear more likely to be employed. Those with longer employment periods, at Rehabilitation Industries, Inc., and those with very short employment periods, showed a lower percentage of post-service employment. Many of those with longer periods of employment were terminal type cases less acceptable for outside employment, while those with very short employment periods were for the most part work evaluation cases.

Where the pre-service and the in-service work experience were the same, there was a high degree of post-service placement in similar work, except where deteriorating physical condition interfered. Among the remaining work categories it was not evident, on the basis of the information, that a relationship existed between the pre-service work experience and the type of post-service placement.

Where the educational level was considered in relation to the post-service placement, there was a greater number, sixty-one per cent, of employment placements among

those former employees with a twelfth grade and above education. For those with an eighth through eleventh grade education, the percentage of employment placements dropped to fifty per cent and for those with less than an eighth grade education the percentage was even lower, thirty-eight per cent. This would suggest that the higher the level of education of the individual, the greater is his chance of finding post-service employment.

When the onset of disability was at an early age there was a higher percentage of those finding post-service employment. For those under twenty years of age at the onset of disability, sixty per cent were post-service employed. For those between the ages of twenty and forty, the percentage of post-service employment had dropped to forty per cent. For those over forty years of age at onset of disability, the percentage of post-service employment declined slightly more to thirty-seven per cent.

Considering the age of the individual at the time of his employment at Rehabilitation Industries, Inc., those who were forty years of age or less at the time they were hired showed a post-service employment of sixty per cent. Of those who were over forty when hired by Rehabilitation Industries, Inc., thirty-seven per cent were employed. On the other hand, the twenty-to-twenty-nine age group show a post-service employment of seventy-three per cent. On the basis of information in this study, those under forty and particularly those between twenty and thirty at the time of

being hired by Rehabilitation Industries, Inc., are more likely to be post-service employed.

The differential between the age of onset of the disability and the age at the time the individual was hired by Rehabilitation Industries, Inc., was also checked. The age differential of two years and under and the twenty-to-twenty-nine year age differential both showed high post-service employment placement with sixty and seventy-three per cent, respectively. This would suggest that those with the shortest age differentials between onset of disability and rehabilitation employment and those whose disability occurred at birth or an early age and who were just coming into the labor market, are most likely to find post-service employment.

The majority of the handicapped individuals showed no change in their physical function. For those showing change in the direction of improvement there was post-service employment. For those showing change in the direction of deterioration, there was lack of post-service employment. The change in physical function appears to influence the direction of placement, with improvement leading to employment and deterioration leading to non-employment.

Examination of the total number of applications of handicapped individuals in relation to the number employed by Rehabilitation Industries, Inc., reveals that about half of all who have applied have been employed. Examined by disability group, those employed and those not hired were

about equal in number for each group. In the case of blindness and cerebral palsy, both showed more of the applicants hired than not hired, but in both instances the majority of the handicapped individuals were on work programs sponsored by outside referral agencies. The highest single group, or ten per cent, of applicants were those who were non-disabled. Also, ten per cent of those individuals hired by Rehabilitation Industries, Inc., have been non-handicapped individuals.

The number of applications show a downward trend from the high in 1956 just after the opening of Rehabilitation Industries, Inc. The employment rolls show an initial upswing until November, 1959, and a general downward trend since that time, as shown in Table 10.

Approximately one-third of the former employees were self-terminated to go to other jobs. Another third were terminated by layoff and the remaining third were terminated for various reasons such as illness, work program ended, employment not practicable, etc. The records contain evidence to support the direct placement in employment by Rehabilitation Industries, Inc., of only five former handicapped workers. However, in the light of the inadequate records, it is reasonable to assume the possibility of direct or indirect involvement by Rehabilitation Industries, Inc., in the placement in employment of others who went to outside employment.

CHAPTER VI

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Summary

The purpose of this study was to make an appraisal of Rehabilitation Industries, Inc., to determine the results of the rehabilitative service provided for the discharged disabled former workers as measured by their post-discharge placement. By means of a pre-service, in-service and a post-service inventory, the effect of these services was studied. Specifically, the purpose was to determine, if these services have been in keeping with the expressed purposes, as outlined in Article II of the By-Laws, i.e., to evaluate, to train, to place in outside employment, and to employ vocationally handicapped individuals in need of those services. It was expressed in terms of:

1. The relationship between the type of disability and the type of rehabilitative work program to the post-service placement of the worker.
2. The disability groups which have been most successfully, and least successfully, served in terms of type of placement.
3. The relationship of the in-service work experience to the type of placement.
4. The influence of the pre-service work experience upon the type of placement.
5. The influence of the educational grade level attained upon the type of placement.

6. The influence of the factor of age upon the type of placement.
7. The influence of the changes in physical function of the disabled upon the type of placement.
8. The degree to which the handicapped have been served in relation to those desiring service.
9. The extent to which Rehabilitation Industries, Inc., has been serving as a transitional and a terminal facility for the handicapped.
10. The growth of Rehabilitation Industries, Inc., in terms of the number of handicapped employed.

All persons who had received services and had been discharged between the time of the opening of the Rehabilitation Industries, Inc., on May 15, 1956, and June 30, 1961, were included in the study.

A brief description of the development of sheltered workshops and of changing attitudes toward the disabled was presented. A short section was devoted to workshop sponsors and workshop programs. In addition, a brief history of the establishment of Rehabilitation Industries, Inc., of Lansing, Michigan, was presented.

A review of the literature revealed a paucity of research in the area of sheltered workshops, although, under the stimulus of financial grants from the Office of Vocational Rehabilitation, Department of Health, Education and Welfare, there are now a number of such research projects in process. The literature is quite extensive in relation to various aspects of rehabilitation, but relatively little has been directed specifically toward sheltered workshops.

Representative samples from the research and literature were presented. The methods and processes utilized to collect, to organize, and to analyze the data of this study were described. Follow-up information relative to the study population was presented.

The data for the pre-service and in-service inventory came from several sources. A search was made of the records of Rehabilitation Industries, Inc., for information about the handicapped employees who had been discharged prior to June 30, 1961. These records included the individual employee's file, the employment applications, the medical records, the time cards, the payroll records, and the monthly employment records. Additional data were provided by the Division of Vocational Rehabilitation, Department of Public Instruction, State of Michigan, and the Ingham County Department of Welfare.

A structured follow-up interview was held with each of the discharged handicapped employees included in the study who could be contacted. A total of fifty-five individuals were interviewed out of the total study population of seventy-five former employees. Ten of these former employees are now living outside the prescribed interview area, four are deceased, four could not be located, and two declined to be interviewed. The follow-up interview provided the post-service information.

After the data were collected, they were tabulated into a composite frequency table, not included because of the

size, from which were developed the frequency tables used to illustrate various areas of the study. These frequency tables were constructed, in most instances, to show the particular information gathered in relation to the disability groups and/or post-service placement of the study population. The results of these tabulations were expressed in terms of absolute numbers, or in percentages, or in both, depending upon what seemed to present most adequately and clearly the information gathered.

In this summary chapter a brief review of the study, its purposes and procedures is presented. Also included are results of the study, conclusions drawn from the results, recommendations related to the study, and suggestions for further research.

Conclusions

Based upon the information as developed in this study and as measured by the post-service placement of the handicapped individuals who formerly worked at Rehabilitation Industries, Inc., the following conclusions can be made.

There was a general unordered distribution of individuals within the disability groups among the various rehabilitative work programs. There were unordered distributions of types of post-service placements, both employment and non-employment, of the individuals within the disability groups as distributed among the in-service programs. Because of these types of distributions, no pattern

developed relating the type of disability and the type of in-service program to the type of post-service placement. While it may be possible for such a relationship to exist, this study indicates that no such relationship existed here.

Several of the disability groups showed a higher degree of post-service employment placement in comparison to the non-employment placement. Several others of the disability groups showed a higher degree of non-employment post-service placement when compared to the post-service employment placement. An unordered pattern of post-service employment and non-employment placement was evident in many of the disability categories. While some of the disability groups had higher levels of employment placement than others and some groups had lower levels of employment placement than others, singling out individual groups is not very meaningful since success in terms of employment placement appears to be on an individual rather than a disability group basis.

Since no pattern developed relating the type of disability and the type of in-service program to the type of post-service placement, and since there appeared no relationship between the type of disability and the type of post-service placement, it would appear that the present practice of serving all disability groups with programs tailored to fit individual needs is justified.

The types of in-service work experiences as indicated by the actual work done by the individual show a general distribution among the types of post-service placement. This

would indicate that there is little or no relationship between the type of in-service work experience and the type of post-service placement. However, when the in-service work experience is measured in length of time of the service experience, this study indicates that those with the shorter work experiences, one to three months, are more likely to find post-service employment. This would suggest that the present types of work experiences available at Rehabilitation Industries, Inc. are adequate.

The pre-service work experience presented a post-service placement pattern similar to that of the in-service work experience pattern. There appears to be little or no relationship between the type of pre-service work experience and the type of post-service placement. Thus the present policy of unselective employment in relation to types of persons served seems justified.

Examination of the educational level attained by the individual and the type of post-service placement indicates that the higher the level of education attained by the handicapped worker the greater was the likelihood of post-service employment. However, there was evidence of successful employment of all educational levels which suggests the desirability of continuing the present practice of serving the handicapped of all educational levels.

The handicapped individual is more likely to find post-service employment when the onset of disability is at an early age, or at birth, rather than when the disability

occurred at a later age.

For disabled individuals receiving vocational rehabilitation service, those who are at the younger ages, especially between twenty and thirty years of age, are more likely to find post-service employment.

The age differential between the age of onset of the disability and the age at which the individual receives vocational rehabilitative services influences the post-service type of placement. Those with less than a two year differential, except those who had the onset of disability at birth, tend to be more frequently post-service employed.

It is desirable to employ the handicapped at as early an age and as soon after onset of disability as possible, except for congenital disability, because of greater success in terms of employment placement. However, present practice of hiring the disabled without consideration of the age factor seems justified since there were successful employment placements among all of the age groups.

While the great majority of the handicapped studied showed no change in physical function, where there was change there was a direct relationship between positive change and post-service employment placement, and between negative change and post-service non-employment placement.

In relation to those handicapped individuals wanting service as indicated by the applications on file, Rehabilitation Industries, Inc., is servicing only half of the handicapped desiring its services. Of those individuals actually

employed ten per cent have been non-handicapped individuals. Although much of the work comes through contracts with outside sources, and there is need to meet contract deadlines, the need for this high a percentage of non-handicapped workers is to be questioned.

Rehabilitation Industries, Inc., has returned to competitive employment over half of those whom it has served. Its two largest in-service programs, over half of employees served, were transitional and terminal employment in equal proportions. About one-third of the service has been work adjustment and training programs again in equal proportions. The evaluation service has involved less than ten per cent of those served.

After a steady increasing growth for the first three years in the number of employees, there has been since that time a continued decline in number of employed. The lack of suitable work and temporary lay-offs made up over one-third of the reasons for termination and suggest the need for an increase in the number of contract jobs to permit greater employment.

In summary it would appear that Rehabilitation Industries, Inc. has done an adequate job of providing service in terms of the number of handicapped it has served. The majority of the discharged handicapped employees are employed on a part-time or a full-time basis. Where non-employment is the type of post-service placement, this non-employment is most frequently beyond the control of Rehabilitation Industries

and results primarily from deterioration in physical condition and in a few cases from those who prefer not to work because of pensions. However, in terms of those desiring service the accomplishment is inadequate. Only half of those applying have been employed.

The lack of adequate production contracts to provide work for the employees and to make possible the expansion of the program, and the decline in the work force suggest the possibility of some inadequacies in past management. The potential in terms of those whom it could serve has not been realized.

Recommendations

The following recommendations, while not an inherent part of this research project, are presented in the hope that they will provide a helpful guide to the administration in suggesting future considerations relative to the operation of Rehabilitation Industries, Inc.

It is suggested that the employment applications be filled out with greater care and accuracy. The applicant should be questioned, if necessary, to insure completeness of information. It might be necessary to contact other sources to obtain or verify information on the application.

The employment record should include the last three to five jobs, with as accurate information as possible on the rate of pay, type of work performed, and the inclusive dates of employment. Periods of unemployment should also be verified.

If there is a lapse in time between application and employment, the information previously obtained should be brought up to date.

It is suggested that strict adherence to the medical record requirement be enforced. These records should include a designation of the disability, the degree of severity, and the prognosis wherever possible.

An employment record should be kept on each employee. It should contain the usual personal information plus information relative to employment including: date of beginning to work, changes in hours worked, pay rates, work performed, work attendance, date and reason for termination. Provision should be made for a record of evaluations, periodically made, relative to work performance, work attitude, personality, social attitudes, physical and functional changes, placement attempts and successes, and general evaluation comments.

It is suggested that increased efficiency in record keeping be instituted. It is also suggested that means be found to increase the number of contracts with industry or other businesses to insure a greater supply of work and a greater variety of work experiences. As reported in this study, the largest single reason for the discharge of the former handicapped employee was the lack of suitable work.

It is also recommended that any future studies such as this include evaluation of the adequacy of the physical facilities, the kinds and availability of financial resources,

the capability of the leadership, and the adequacy of management and of management policies. Additional consideration might be given to the kinds of supplementary services such as social work, counseling, recreation, and psychological evaluation, needed to complement the services being provided.

Implications

While the following section does not evolve from the data of the research per se, it does reflect the personal observations and opinions formulated by the author during the process of gathering and analyzing the data of the study.

Of interest is the finding that the young handicapped individual with congenital or early age onset of disability and higher level of education required a shorter period of rehabilitation before entering into employment. It may be possible that this could be peculiar to the present study and that a similar study in another geographic area might not produce this same combination of findings.

The possibility of this is suggested by the fact that the Lansing area schools have a well developed program of special education for the handicapped. This factor may have operated to bring about these particular findings. The handicapped who have gone through this educational program, and a number of them had, may have been prepared to the degree that it enhanced the probability of their rehabilitation in a short period of time.

Another factor which might also have been operating

to influence this finding could be the self-concept. Congenital or early age onset of disability tends to have a less traumatic effect upon the individual than the occurrence of disability at a later age. The disability is thus more easily incorporated, generally, into the self-picture.

These findings suggest that a study might be made on the basis of those handicapped graduates who worked at Rehabilitation Industries, Inc., and those who did not to see if there were any significant differences in the ultimate work placement. It could be that little difference would be found between the two groups. This would have importance in suggesting direction for the employment of these young handicapped workers.

These findings also suggest the need for a close cooperation between the special education services of the schools and the offices of vocational rehabilitation. This would be especially true at the junior and senior high school levels. In all probability a majority of these handicapped individuals are going to become the responsibility of the rehabilitation services upon their graduation. Even though the agency usually cannot enter into the picture until the student has reached at least fifteen years, it would be possible to begin an educational program tailored to the handicapped individual that would better prepare him to profit from the rehabilitation services when he became eligible.

The schools in general have a responsibility toward the handicapped. The modern concept of education is to

develop the individual to his fullest capacity. If the school is unable because of financial limitations, or other reasons, to provide special education facilities, it still has an obligation. Where the handicapped is not of sufficient severity to warrant special education, or where such education is not available, the schools should make provision for adequate preparation to enable the individual to most effectively take his place in society.

This preparation might be in terms of the available curricular offerings of the school alone. It might also be worked out in conjunction with the offices of vocational rehabilitation. This suggests that schools need to take a look at their curriculum. While the college-bound student finds, generally, adequate preparation available, the non-college-bound, who constitute a majority of students, all too frequently find vocational preparation programs non-existent or very poor in the smaller school systems. In many of the larger systems vocational preparation opportunities are also limited. Too often, no provision is made for the physically or mentally handicapped individual. Here again, closer cooperation between the schools and the offices of vocational rehabilitation in the development of educational programs could well work to the advantage both of the individual and of society.

This study seems to indicate, further, that sheltered workshops also have a responsibility to society to do all that they can in the restoration of the handicapped to as

nearly a self-sustaining level as possible. This would include the severely handicapped as well as those with less severe disabilities. The objective would be the return to productive status whether in competitive or in sheltered employment.

As a last observation, it would seem to me that Rehabilitation Industries, Inc., might function more adequately if they were to concentrate their energies on either transitional or terminal programs in place of trying to do both as at present. There are sheltered facilities available in the Lansing area, and concentration on transitional programs might well prove most beneficial to the community.

Suggested Areas for Further Research

The experiences of this present study have suggested several research studies that could be carried out both with and for Rehabilitation Industries, Inc.

For instance, a study might be made to determine the type and degree of influence that is exerted by the adequacy of the facility itself and its supporting services upon the rehabilitation of the worker.

An area that appears to warrant further research would be the effect of the severity of the disability upon the efforts of rehabilitation. The influence of worker attitudes and other psychological factors might be incorporated into the study. The workers, present and past, could well serve as the population on which to base the study.

Another area somewhat related to the above which might be studied is the influence of the self-concept, and the changes made in the self-concept during the process of rehabilitation. The employees of Rehabilitation Industries, Inc., could again serve as a population to measure the self-concept before employment or at admission, the self-concept while employed, and the self-concept following termination of employment.

The concept the worker has of the objectives of the sheltered workshop, especially as related to himself, could be investigated to determine the influence of this concept upon work potential and upon productivity, both during sheltered employment and in outside placement.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Allen, W. Scott, Rehabilitation: A Community Challenge, New York: John Wiley and Sons, Inc., 1950. 247 p.
2. Annual Report for the period ending December 31, Ingham County Rehabilitation Center, Inc., and Rehabilitation Industries, Inc., Lansing, Michigan: The Board of Directors. 1931.
3. Avedon, Elliott M., Ed.D., Arje, Frances B., and Berryman, Doris, "Work is Not Enough", Journal of Rehabilitation, XXXVIII (July-August, 1932), 25.
4. Barshop, Irving, "Policy and Practices in Hiring Impaired Workers," Journal of Rehabilitation, XXV (November-December, 1939), 23-25.
5. Breul, Frank R., "Vocational Rehabilitation and Public Assistance," Public Welfare, XII (April, 1935), 49-52, 32.
6. Chouinard, Edward L., Sheltered Workshops - Past and Present. A paper delivered at the Fifth Atlantic City Rehabilitation Conference sponsored by the National Rehabilitation Association, June 10-11, 1937.
7. Cohen, Albert, "Detroit Sheltered Workshops: A Project of the Jewish Vocational Service," Journal of Rehabilitation, XX (March-April, 1934), 19-30.
8. Combs, Mary H., Nadler, Eugene B., and Thomas, Charles M., "Vocational Exploration: Methodological Problems and a Suggested Approach," American Journal of Occupational Therapy, XII (March-April, 1938), 34-38.
9. Consulting Service on Recreation for the Ill and Handicapped, Some Facts and Recommendations Concerning Recreation Services to Clients of Representative Types of Sheltered Workshops, New York: The National Recreation Association, 1931. 82 p.
10. Deaver, George G., "Sheltered workshops," Crippled Child, XXVIII, (June, 1930), 7-9, 28.
11. Division of Vocational Rehabilitation, Lansing, Michigan. (Official records and correspondence.)
12. Elton, Frederick C., "Personality Factors in Vocational Rehabilitation," Mental Hygiene, XXXIV (July, 1930), 373-84.

13. Federation Employment and Guidance Services, New York, Survey of Employment Practices and Policies in Hiring of Physically Impaired Workers, New York: The Committee, 1959. 133 p.
14. Feintuch, Alfred, "Classification of Sheltered Workshops," Occupations, XXIX (April, 1951), 515-17.
15. Feintuch, Alfred, "Sheltered Workshops - A Conceptual Framework," Journal of Rehabilitation, XXIV (January-February, 1958), 9-10.
16. Fielding, Benjamin Blumenfeld, "Attitudes and Aspects of Adjustment of Orthopedically Handicapped Women," Journal of Exceptional Children, XVII (December, 1950), 78-81, 83.
17. Gellman, William, and Friedman, Simon B., "A Workshop for Overcoming Barriers to Employment," Vocational Guidance Quarterly, (Summer, 1953), 29-32.
18. Grossman, Maurice, M.D., "Emotional Aspects of Rehabilitation," The American Journal of Psychiatry, CIX (May, 1953), 849-52.
19. Heather, Arthur J., M.D., "A Two-Year Follow-up Study of the Patients Admitted to the Rehabilitation Center of the Hospital of the University of Pennsylvania," American Journal of Physical Medicine, XXVII (October, 1958).
20. Hochhauser, Edward, "Industrial Convalescence in the Sheltered Workshop," Journal of Rehabilitation, XIX (March-April, 1953), 8-10, 20.
21. Hoffman, Simon, "Operating a Contract Shop for the Blind," Journal of Rehabilitation, XIX (May-June, 1953), 7-11, 25-26.
22. Jennings, Muriel, "Twice Handicapped," Occupations, XXX (December, 1951), 173-181.
23. Jewish Occupational Council, A Survey of Sheltered Workshops Operated by Jewish Vocational Service Agencies, New York: The Council, 1954. 31 p.
24. Los Angeles State College and the California Conference of Workshops for the Handicapped, New Horizons for Workshops for the Handicapped, Joseph Stubbins, ed., Los Angeles: Los Angeles State College, 1960. 45 p.

26. Lytle, Howard G., "Standards for Sheltered Workshops: Development, Present Status, and Future," Journal of Rehabilitation, XXVII (November-December, 1961), 11-13.
28. Maloney, Elizabeth, "Intake Policies For A Sheltered Workshop," Crippled Child, XXVIII (August, 1960), 13-15, 26-29.
27. Manson, Morse H. and Devins, George V., "Some Psychological Findings in the Rehabilitation of Amputees," Journal of Clinical Psychology, IX (January, 1953), 35-38.
28. Massie, William A., "Classification of Workshop Standards," Rehabilitation Record, I (May-June, 1960), 31-33.
29. Massie, William A., "Workshops; New Emphasis," Rehabilitation Record, II (November-December, 1961), 31-34.
30. McGuire, Louise, "Sheltered Workshops and Home Industries Under the Federal Wage and Hour Law," Crippled Child, XXX (August, 1952), 6-7, 29.
31. Memorandum from the Minutes of the March 18, 1959, Meeting of the Board of Directors of the Ingham County Rehabilitation Center, Inc., Lansing, Michigan.
32. Miller, Maurine R., "Does a Work Evaluation Program Work?" Journal of Rehabilitation, XXXIV (March-April, 1958), 8-9, 17.
33. Nachmani, Sylvia F., "Coordinating All Services in Workshops of the New York Guild for Jewish Blind," New Outlook for the Blind, XLVI (December, 1952), 229-23.
34. National Association of Sheltered Workshops and Homebound Programs, Inc., Sheltered Workshops and Homebound Programs: A Handbook, New York: The Association, 1952, 71, XIII p.
35. National Association of Sheltered Workshops and Homebound Programs, Inc., The Role of the Workshop in Rehabilitation, Nellie Zetta Thompson, ed., Washington, D.C.: The Association, 1952. 114 p.
36. National Institute on Standards for Classification and Evaluation of Sheltered Workshops, Report of Urban Area Meetings, 1028 Connecticut Ave., N.W., Washington 6, D.C.: National Institute on Workshop Standards, 1959. 46 p.

37. National Institute on Workshop Standards, Experimental Evaluative Instrument Based on Potential Standards for Sheltered Workshops, 1035 Vermont Ave., N.W., Washington 5, D.C.: The Institute, 1952. 69 p.
38. Office of Vocational Rehabilitation, U.S. Department of Health, Education and Welfare, Workshops for the Disabled: A Vocational Rehabilitation Resource (Rehabilitation Service Series Number 371). Edward L. Chouinard, and James F. Garrett, ed., Washington, D.C.: U.S. Government Printing Office, 1956. 137 p.
39. Office of Vocational Rehabilitation, U.S. Department of Health, Education and Welfare, Research and Demonstration Projects, Washington, D.C.: U.S. Government Printing Office, 1960.
40. Parker, Mrs. William H., "The Sheltered Workshop: Business or Charity?" Bulletin, National Association of Sheltered Workshops and Related Programs. June, 1956, 6-9.
41. Payroll Records of Rehabilitation Industries, Inc., Lansing, Michigan: Board of Directors, 1953-1961, inclusive.
42. Pomeroy, Richard W., M.D., "Grass Roots Planning For Rehabilitation." (A speech given before the American Personnel and Guidance Association Convention, March 24, 1959, Cleveland, Ohio.)
43. Redkey, Henry, "Tomorrow's Sheltered Workshop," Journal of Rehabilitation, XXV (September-October, 1959), 14-15, 26.
44. Rehabilitation Policy Committee of the National Rehabilitation Association, "Sheltered Workshops-NRA Policy," Journal of Rehabilitation, XXVI. (January-February, 1960), 19-20.
45. Schletzer, Vera M., Davis, Rene W., England, George W., Lofquist, Lloyd H., Attitudinal Barriers to Employment, Minnesota Studies in Vocational Rehabilitation: XI, Bulletin No. 32, Minneapolis: Industrial Relations Center, University of Minnesota, 1961. 76 p.
46. Schletzer, Vera M., Davis, Rene W., England, George W., Lofquist, Lloyd H., Factors Related to Employment Success, Minnesota Studies in Vocational Rehabilitation: VII, Bulletin No. 27, Minneapolis: Industrial Relations Center, University of Minnesota, 1959. 32 p.

47. Scott, Thomas B., Dawis, Rene V., England, George W., and Lofquist, Lloyd M., A Definition of Work Adjustment, Minnesota Studies in Vocational Rehabilitation: X, Bulletin No. 30, Minneapolis: Industrial Relations Center, University of Minnesota, 1960. 75 p.
48. Severson, Alfred L., "Contract Work in a Sheltered Workshop," Outlook for the Blind, XLIV (September, 1950), 200-201.
49. Sixth Annual Report, Ingham County Rehabilitation Center, Lansing, Michigan: Board of Directors, 1959.
50. Smith, N.P., "Operational Techniques for Sheltered Work Programs: A Guide for Planning and Management," Part I, Rehabilitation Literature, XXII (August, 1961), 230-240.
51. Suazo, Antonio C., Executive Director, National Association of Sheltered Workshops and Homebound Programs, Inc., In a letter dated July 27, 1961, to the author.
52. Suazo, Antonio C., "Subsidizing the Sheltered Workshop," Journal of Rehabilitation, XXVIII (July-August, 1962), 2.
53. Trevethan, P.J., "Goodwill Industries Accreditation Program," Journal of Rehabilitation, XXVIII (January-February, 1962), 49-50.
54. U.S. Office of Vocational Rehabilitation, Psychological Aspects of Physical Disability, James F. Garrett, ed. (Rehabilitation Service Series No. 210) Washington, D.C.: U.S. Government Printing Office, 1952. 195 p.
55. U.S. President's Committee on Employment of the Physically Handicapped, Employing the Physically Handicapped: A Bibliography, (U.S. Bureau of Labor Standards, Bul. No. 146. Rev. June, 1953) Washington, D.C.: U.S. Government Printing Office, 1953.
56. Viscardi, Henry, Give Us The Tools, New York: Erickson-Taplinger Co., 1959.
57. Viscardi, Henry, Jr., "Too Little To Do," Crippled Child, XXXIII (October, 1955), 10-12.

58. Weiss, David J., Davis, Rene V., England, George W., and Lofquist, Lloyd H., Validity of Work Histories Obtained by Interview, Minnesota Studies in Vocational Rehabilitation: XII, Bulletin No. 34, Minneapolis: Industrial Relations Center, University of Minnesota, 1961. 47 p.
59. Wolfe, Harvey E., "The Competitive Workshop," (Letter to the Editor), Personnel and Guidance Journal, XXXVIII (March, 1960), 585-86.
60. Zelle, Jean A., "Goodwill Has Found A Good Way," Journal of Rehabilitation, XVII (May-June, 1951), 17-21.

APPENDICES

SURVEY FORM

Name _____ Referred By _____

Address _____ Phone No. _____ Sex _____ Marital Status
S. M. W. D. Sep.

Date of Admission _____ Date of Discharge _____ Age at Onset _____ Age at Admission _____ Age at Follow Up _____

Diagnosis of Disability _____ Slowly Progressive _____ Rapidly Progressive _____ Per-
Stable _____ manent _____

General

Specific

Complicating Factors

Prescribed Program

General Information	Admission	Discharge	Follow Up
Belfast			
Chair			
Ambulatory			
Ambulatory Aids			
Standing Tolerance			
Walking Tolerance			
Work Tolerance			
Limitations Due To Handicap Or Disability			

Transportation Used	Admission	Discharge	Follow Up
Walk Only			
Bus			
Taxi			
Private Auto			
Drive auto			
Limitations on Physical Activities			
Walking			
Standing			
Stooping			
Kneeling			
Lifting			
Reaching			
Pushing			
Pulling			
Other (Specify)			
Limitations on Work Conditions			
Outside			
Inside			
Humid			
Dry			
Dusty			
Sudden Changes of Temperature			
Other (Specify)			

Financial Information	Before Disability	At Admission	At Discharge	At Follow Up
Income or Earnings				
Employer				
Type of Work Performed				
Length of Employment				
Other Financial Assistance (Per Month)				

Source

Reason

Educational Level
Completed (Years) 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 over

Special Education
or Training

Doctor's Name

Time in Rehab. Industry (Days)

Patient's Attitude Toward Service

Other Significant Information

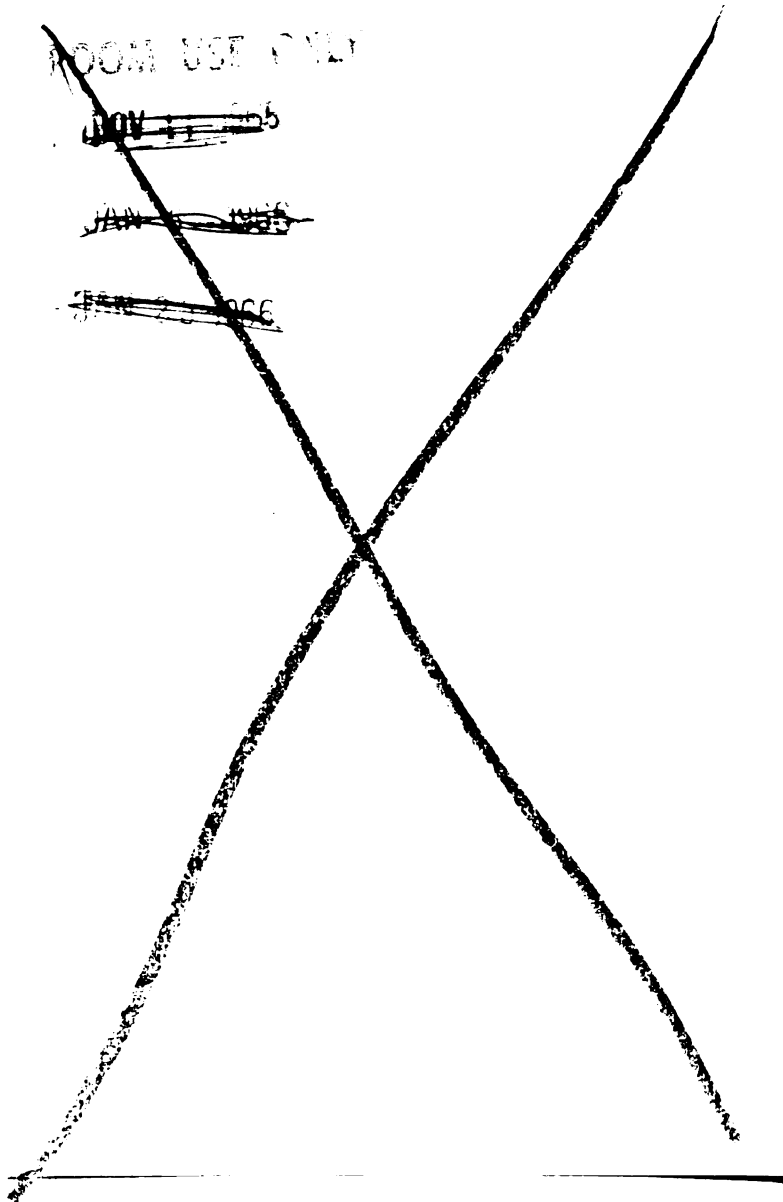
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