Western Michigan University
ScholarWorks at WMU

Masters Theses

Graduate College

8-1968

An Evaluation of a Rehabilitation Program for Adolescent Psychiatric Patients

Kenneth Richard Gibson
Western Michigan University

Follow this and additional works at: https://scholarworks.wmich.edu/masters_theses

 Part of the Psychoanalysis and Psychotherapy Commons

Recommended Citation

Gibson, Kenneth Richard, "An Evaluation of a Rehabilitation Program for Adolescent Psychiatric Patients" (1968). *Masters Theses*. 3151.
https://scholarworks.wmich.edu/masters_theses/3151

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Masters Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact wmu-scholarworks@wmich.edu.

AN EVALUATION OF A REHABILITATION PROGRAM FOR ADOLESCENT PSYCHIATRIC PATIENTS

by

Kenneth R. Gibson III

A Thesis
Submitted to the
Faculty of the School of Graduate
Studies in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
August 1968

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

ACKNOWLEDGEMENTS

The investigator wishes to express his deepest appreciation to Dr. Malcolm H. Robertson, thesis advisor and committee chairman, for his continued guidance and assistance through all phases of this project. Special thanks are expressed to Dr. Bill L. Hopkins and Dr. Stanley Kuffel, who served as members of the thesis committee, and to Dr. Chris Koronakos, who participated in the administration of the oral examination.

Appreciation is hereby expressed to Traverse City State Hospital for support of this research, and to Dr. Paul E. Kauffman, Director of Research and Training at the hospital, for his concern and advice. Special thanks are expressed to Dr. Leonard J. Thill, Director of the Adolescent Vocational-Activities Program, and to Mr. Thomas A. Bailey, Supervisor of the program, whose cooperation with this project is gratefully acknowledged. Special thanks are due the attendant nurses on the adolescent and young adult halls, and the instructors in the Adolescent Vocational-Activities Program, for their cooperation in filling out the two rating scales used in this study. Special thanks are expressed to Miss Ingeborg Villarreal for her encouragement and assistance. Special thanks are also due Mrs. Jacqueline Donner for her clerical assistance.

My gratitude to these people of course in no way divorces me from the sole responsibility for what is written here.

Kenneth R. Gibson

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

MASTER'S THESIS M-1653

GIBSON III, Kenneth Richard
AN EVALUATION OF A REHABILITATION PROGRAM FOR ADOLESCENT PSYCHIATRIC PATIENTS.

Western Michigan University, M.A., 1968
Psychology, clinical

University Microfilms, Inc., Ann Arbor, Michigan

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

TABLE OF CONTENTS

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

LIST OF TABLES

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

INTRODUCTION

The Program[1]

The Adolescent Vocational-Activities Program which is the subject of this study first began its classes at Traverse City State Hospital, Traverse City, Michigan, in January, 1965 (Sommerness & Curtiss, 1966; Sommerness & Curtiss, 1967). Traverse City State Hospital presently cares for approximately 2,300 psychiatric patients. Faced with a growing number of adolescent admissions, the hospital administration planned a comprehensive rehabilitation program to meet the needs of patients primarily in the 15-25 age range.[2] The program has its origin in the hospital's Family Care Program, but it took on a vocational emphasis and grew to the point where it involved a larger number of hospital staff. A Special Education Program was instituted in 1961 to supplement the hospital's services for these younger patients. The Adolescent Vocational-Activities Program and the Special Education Program are being placed in close proximity on the hospital campus through the construction of a new 120-bed Children's Unit which is to be completed in September, 1969.

---

[1]This program was supported by a Hospital Improvement Project grant (MH-01786-01, 02, and 03) from the National Institute of Mental Health, United States Public Health Service, from June, 1964, until June 30, 1968. The Michigan Department of Mental Health began assuming financial responsibility for the program on July 1, 1968.

[2]The number of persons 25 years and younger entering the hospital per year has increased from 149 (1963-64) to 172 (1964-65) to 203 (1965-66) and is expected to continue increasing.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The adolescents and young adults at Traverse City State Hospital, as well as other psychiatric institutions, must face the problems of approaching adulthood with the handicap of severe disturbance in individual and social adjustment. A program to meet the needs of these patients had to be much broader than the conventional vocational training or therapeutic program; it had to embody these activities plus more. A program was designed to combine pre-vocational training, social redevelopment, and group therapy for younger patients. The Adolescent Vocational-Activities Program includes classroom vocational instruction, personal interaction between patients and staff and between patients, recreational activities, and group therapy. There are now about 85 patients involved in at least some of these activities; about 36 of them are also enrolled in the Special Education Program. The program is staffed by a psychiatrist, a social worker, six instructors, and four child-care attendants.

The pre-vocational activities are designed to help the adolescent and young adult patients choose and prepare for the type of employment they are best suited for. These activities consist of courses in shop for the boys and in domestic science for the girls. Boys learn some of the principles of electricity, electronics, heat engines, and printing. They apply these principles by learning to build electric motors and radios, repair gasoline engines, and operate telegraph, letterpress, and offset printing machines. For the girls, the general course centers around grooming, cooking, sewing, and home mangement. Vocational training for them includes typing, shorthand, business procedures, retail selling, short-order cooking, motel care, and wait-

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

ress work.

The classes vary in size from 6 to 14 students. Most of the students spend about five hours a day, five days a week, in the program. The students are made aware of the variety of jobs in industry, the qualifications needed for them, and the potential in these occupations. They develop this awareness through visits to factories and businesses and showings of films, as well as through the classroom activities and discussions. The training courses are designed to test the patients' aptitudes and enthusiasm for the work they choose.

Social redevelopment activities are concurrent with, and to some extent part of, the vocational training courses. Patients learn such skills as how to give a party, including how to prepare snacks and how to behave as hosts and as guests. In group therapy these patients have an opportunity to express their own feelings and thoughts in interaction with peers experiencing similar problems.

An evaluation of this vocationally-oriented therapeutic program is a complex and challenging task. Since there are so many kinds of behavior that the program is intended to develop and so many ways patient progress can take place, an evaluation of the program as a whole is almost impossible. This study is concerned with the question: Can this many faceted program be partially evaluated by a systematic approach that will empirically substantiate the generally favorable impression already created? Specifically, do patients who are in the program show more improvement on particular criteria of change than patients who are not in the program?

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Similar Programs

The Adolescent Vocational-Activities Program at Traverse City State Hospital is unique. It is a combination of pre-vocational training, social redevelopment, and group therapy for a diagnostically mixed population of patients (rather than a single classification, like mentally retarded) in the 15 to 30 age range.

There is considerable work being done in areas related to rehabilitation programs for adolescents in psychiatric hospitals. For one example, a general search by the National Clearinghouse of Mental Health Information resulted in 82 references to the topic of rehabilitation of young institutionalized retardates, 13 references to hospital rehabilitation of criminal offenders, 63 references to rehabilitation of mentally ill, and 42 references to rehabilitation of mentally ill youth. On the other hand, few of these references deal with comparable programs for comparable populations. For another example, an exploratory bibliographic index of evaluation in mental health, which covers only a small portion of this literature, contains over five hundred abstracts (Dent, 1966).

The Adolescent Day Hospital and Treatment Center at Osawatomie State Hospital in Kansas (Bishop & Mann, 1964), the Educational Therapy Project at Toledo State and Receiving Hospital in Ohio (Rabin, Bond, & Lauber, 1966; Bond, 1966), and the Young Adult Unit at Northville State Hospital in Michigan (Göknar, 1968) are rehabilitation programs which have some of the characteristics of the Adolescent

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Vocational-Activities Program. They are not the only mental health programs, nor are they necessarily the most similar programs. They are intended only to sample the population of such programs.

The Osawatomie program (Bishop & Mann, 1964) is the "model" predecessor of the Adolescent Vocational-Activities Program. It was visited by two members of the Traverse City State Hospital staff during the planning of the present program. It combines academic classes, work, recreation, home economics, typing, woodworking, cosmetology, auto mechanics, handicrafts, music and art. It was designed for a diagnostically mixed population. And, it serves about 35 teenagers ranging from 15½ to 19 years. No evaluative data are available on this program.

The Educational Therapy Project at Toledo State and Receiving Hospital (Rabin et al., 1966; Bond, 1966) combines group, individual, and recreational therapy, but the major therapeutic impact is provided by a special educational program. This program is built around the educational needs of a selected group of patients. Academic work is provided in several subject areas appearing to represent fairly common areas of need for most of the patients. The length of school sessions and number of subject areas are gradually increased as the patients' abilities to concentrate increase. The Educational Therapy Project was designed for a mixed population, although most patients carry a diagnostic label of schizophrenia. All patients had been hospitalized for from one to three years, had IQ's of 80-85 and above, and were not severely organic. The program serves 20 patients per year from 13 to 19 years old. A total of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

seven patients out of the group of 20 were released from the hospital with treatment terminated. However, it is not known how many patients out of a comparable group would have been released from the hospital without such a program.

The Young Adult Unit at Northville State Hospital (Göknar, 1968) includes pre-vocational, vocational, and on-the-job training, plus recreation and music therapy, individual and group therapy, and psychodrama. It includes a fairly broad range of behavior pathology and diagnoses. And, it is highly concentrated on patients in the 17 to 21 age range. However, it differs from the Adolescent Vocational-Activities Program in its selection of patients with average or above intelligence and its exclusion of brain damaged and chronic patients. Data on this program show that within the first six months, of the 130 young adults reviewed, 80 (or 62%) have returned to the community. However, the number of patients returning to the community without this program is unknown.

Outcome Research on Psychotherapy

An evaluation of the efficacy of the Adolescent Vocational-Activities Program can benefit from the problems that have confounded attempts to evaluate the efficacy of psychotherapy through outcome research. This is possible because the methodology is similar in the two endeavors. The basic problems have been discussed in a significant series of articles (Watson & Mensh, 1951a; Watson & Mensh, 1951b; Watson & Mensh, 1951c; Watson, 1952a; Watson, 1952b).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The article by Eysenck (1952) is well known and provides a good example of these methodological problems. He summarized nineteen reports of the results of psychotherapy, which covered over 7,000 cases and dealt with both psychoanalytic and eclectic types of treatment. His data failed to support the hypothesis that psychotherapy facilitates recovery from neurotic disorder (p. 323). This was his most modest conclusion.

Eysenck's method of evaluation and the status of his conclusions did not, of course, go uncontested (Rosenzweig, 1954; Luborsky, 1954; DeCharms, Levy, & Wertheimer, 1954). Eysenck (1954, 1955) replied to the objections and later promoted his position again (1961), summarized the literature up to that time and concluded:

> "With the single exception of the psychotherapeutic methods based on learning theory, results of published research with military and civilian neurotics, and with both adults and children, suggest that the therapeutic effects of psychotherapy are small or non-existant, and do not in any demonstrable way add to the non-specific effects of routine medical treatment, or to such events as occur in the patients' everyday experience" (p. 720).

It is curious that although psychotherapists seem almost universally enthusiastic about their work, no scientific evaluation seems to bear them out. One writer (Astin, 1961) has pointed out that hope for proof of efficacy, high in the early days of psychotherapy, faded when the results of evaluations started coming in. It seems that many therapists retreated to a safer position and declared psychotherapy to be its own justification; psychotherapy thus achieved "functional autonomy." Many other therapists (e.g., Rosenzweig) believe that the failure to demonstrate the efficacy of psychotherapy lies with the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

type of study undertaken. The position of this report is that there must be more properly planned and executed research, both outcome and process, on all varieties of therapeutic endeavors.

Eysenck's summary of outcome studies on psychotherapy points out two things: (1) the similarity of the methodological problems in the evaluation of the efficacy of psychotherapy and of therapeutic programs, and (2) the direct influence of the method of evaluation on the results and conclusions. Although the Adolescent Vocational-Activities Program is substantially different from individual or group therapy alone, the method of its evaluation is sufficiently similar to that of psychotherapy. An adequate evaluation will have to include, as minimum requirements, a control group and some objective criteria of patient change. The criteria in this evaluation are personality inventories and rating scales administered according to a pre-post experimental design.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

METHOD

Subjects

The subjects were 49 adolescent and young adult inpatients at Traverse City State Hospital who were referred by their ward psychiatrists as candidates for the program under study. The psychiatrists on the adolescent and young adult wards were aware of the study, but were instructed to employ the same criteria in referring patients to the program during the course of the experiment as at any other time. Each adolescent entering the hospital is considered first for Special Education. If it is decided for any reason that he cannot profit from experience in an academic setting, but can profit from off-the-ward activities, then he is referred to the Adolescent Vocational-Activities Program. (About 36 patients are enrolled in both programs; these 36 were excluded as subjects.) Hence, the patients in the vocational program represented the more chronically disturbed of the two groups. Being referred for this program was the only factor leading to acceptance of a patient as a subject in the experiment. The sample of program candidates entered in the project consisted of all except one of the program referrals from October, 1967, to April, 1968. Of these 49 subjects, 26 were male and 23 female (see Appendix A). The age range was 15-30 years, with a mean age of 20.8 years and a standard deviation of 4.2 years (see Appendix A). Diagnostically, they were mixed, with 22 subjects in the schizophrenic classification, 11 in the transient situational personality disturbance classification,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

and the remaining 16 spread over eight different classifications (see Appendix B). The heterogeneity of these subjects compounded the task of program evaluation because there were so many ways patient improvement could take place. The average number of hospital admissions was 1.2, and the average length of the current hospitalization (prior to the study) was 16.4 months (see Appendix C).

Two groups of program candidates were formed. A strict random procedure was employed to divide the first nine candidates into six experimentals and three controls. But this procedure could not be maintained throughout because a large number of openings in the program had to be filled, and the next 29 candidates entered the program. The next 11 candidates were "held out" and placed on a three month waiting list. With the exception of one female patient who received individual therapy, they were also not involved in any systematic therapeutic programs beyond the usual day-to-day therapeutic activities of the hospital. As a group, they were relatively free from special kinds of therapeutic endeavors, such as Special Education, Sheltered Workshop, or individual or group therapy. The two groups, 35 experimental patients and 14 control patients, differed with respect to the independent variable of having been involved in the Adolescent Vocational-Activities Program for a three-month period of evaluation. Of the 35 subjects in the experimental group, 20 were male and 15 female. Of the 14 subjects in the control group, six were male and eight female. The age range of the experimental group was 15-30 years, with a mean age of 20.1 years and a standard deviation of 4.3 years. The age range of the control group was 17-29 years, with a mean age of 22.5 years and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

a standard deviation of 3.7 years. The experimental group was diagnostically mixed as was the control group. The average number of hospital admissions was 1.2 for each group. The average length of the current hospitalization (prior to the study) was 12.4 months for the experimental group and 26.6 months for the control group.

An important factor that had to be considered was the subject attrition rate, i.e., the rate of patients leaving the hospital for various reasons from both the experimental and control groups. It was impossible to obtain post-testing data on these patients. Of the total of 49 subjects, 19 or 39% left the hospital before the end of the three months. Fifteen of the 19 were from the experimental group and four from the control group. The attrition rate is, in itself, a kind of inaccurate criterion of both hospital and/or program influence. In this case the number of patients involved in the experimental and control groups was too small to justify comparisons of the attrition rate for each group. The non-random nature of the attrition rate necessitated a psychometric pre-comparison of experimental and control groups, for some of the results depend directly on the degree to which these two groups were comparable. A pre-comparison of experimental and control groups on three personality measures, both with and without the attrition of subjects considered, is presented in Table 2.

Procedure

The results of any evaluation of therapeutic effectiveness depend directly on the criteria of change which are employed. Three of the five measures used in this study were self-reports and two were rating

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

scales. The three self-report measures were the Minnesota Multiphasic Personality Inventory (MMPI), Interpersonal Check List (ICL), and the Purpose-in-Life Test (PIL). The two rating scales were the Psychotic Reaction Profile (PRP) and the Behavioral Adjustment Rating Scale (BARS). All 49 subjects were administered the five personality measures twice, three months apart. Subjects were evaluated psychometrically when they were referred as program candidates and again three months later (± week).

The 400-item Shortened Version of the Group (booklet) Form of the MMPI (Hathaway & McKinley, 1951) was used to detect any shifts in symptomatology of patients as they participated in the program. The ICL (LaForge & Suczek, 1955), an adjective check list scale, was used to measure changes in self-descriptions of patients participating in the program. In order to provide an objective method of deriving indices of change on these two personality measures, the method outlined by Leary was employed (1956, 1957). Leary's Interpersonal System of Personality is an objective combination of methods for the assessment of personality and the evaluation of changes resulting from psychotherapy, therapeutic programs, or other techniques of behavior modification. The ICL was specifically developed to measure the personality variables defined by the Leary system, while the MMPI scale scores must be converted to corresponding scores in this system. One alteration was made in the plotting of moderate and extreme diagnostic codes. The range of moderate diagnoses was extended to a wider radius on the circular diagnostic grid or "circumplex," exactly one-half the radius of the grid rather than at the one sigma point.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

This was done because it was felt that the items in this range were more appropriate to a moderate diagnosis. Diagnostic codes (pre- and post-testing) were compared for both the MMPI and the ICL to yield variability or discrepancy indices. These measures of change were tallied and subjected to statistical analysis.

The PIL is a recently constructed attitude scale designed to measure a person's sense of meaning and purpose in life (Crumbaugh & Maholick, 1964; Crumbaugh, 1968). This scale was administered to the 49 subjects when they were referred as program candidates and again three months later. The subjects were instructed to circle the number on a seven-point scale that would be most nearly descriptive of themselves. The numbers always extend from one extreme feeling to its opposite kind of feeling. Only the quantitative extremes of the scale are set by qualitative phrases. The direction of magnitude is randomized for the items. The score is the sum of individual ratings assigned to each of the 20 items of Part A. Parts B and C, which are interpreted clinically, were not employed in this study.

The first published study employing this instrument (Crumbaugh & Mabolick, 1964) was based upon a total of 225 subjects comprising five subpopulations ranging from "high purpose" non-patients (Harvard summer school graduate students) to "low purpose" patients (alcoholics). The authors reported a significant discrimination between patients and non-patients, and a progressive decline in mean scores from the "high purpose" group through the "low purpose" group. They also presented a set of norms for patients and non-patients of each sex. When cutting scores half way between patient and non-patient norms for each sex were

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

employed, the PIL scale predicted 65.4% correct classifications for females and 75.4% correct classifications for males.

The second study of this series employing the PIL scale (Crumbaugh, 1968) was based upon a total of 1,151 subjects (including the 225 of the previous study), which were made up of four non-patient groups and six neuropsychiatric patient groups. Again, highly significant differences between patient and non-patient groups were found. The PIL scale differentiated the four non-patient groups in the order predicted. With the six patient groups it did not differentiate very well the order predicted, but some of these groups were too small for meaningful comparisons.

The present undertaking is, to the writer's knowledge, the first study employing the PIL scale to measure changes in patients' sense of meaning and purpose in life as a function of the variables of a comprehensive rehabilitation program.

The PRP (Lorr, O'Connor, & Stafford, 1960; Lorr, 1961), an inventory of observable patient behavior for use by hospital personnel, was developed as a criterion of behavior change for drug studies. The 85 items were marked either "T" (true) or "NT" (not true) by attendant nurses and program instructors. Scores on four dimensions were obtained: Withdrawal, Thinking Disorganization, Paranoid Belligerence, and Agitated Depression. Two large-scale drug studies have used this instrument, one designed to evaluate the effectiveness of the antidepressant drugs for chronic schizophrenic patients (Casey, Hollister, Klett, Lasky, & Caffey, 1961) and the other to investigate possible differences in drug action on schizophrenic patients (Lasky, Klett, Caffey, Bennett, Rosenblum, & Hollister, 1962).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The BARS is a graphic rating scale constructed by the writer specifically for use in the Adolescent Vocational-Activities Program (see Appendix D). It has not been standardized, and information on its validity and reliability are lacking.

The PRP and BARS were filled out together twice by attendant nurses and program instructors, three months apart. On the BARS only the 14 items under "Social Skills" and the first nine items under "Vocational Skills" were rated. However, because of inadequate behavioral observation, not all raters completed all these items. In order to avoid penalizing subjects who were not rated on all of these items, percentages of points earned were taken on the BARS. The program instructors rated their own students (N=35) after a short period of observation and then again three months later. The ward personnel rated all 49 of the subjects in the study after a short observation period and then again three months later. The average of the scores of two ward raters, one each from the morning and afternoon shifts, was used as a more stable measure of patient behavior on each of the rating scales (on the PRP this was the average for each of the four dimensions; on the BARS it was the average of two percentages). Thus, for the 35 experimental subjects <u>two</u> measures of behavior were obtained for each rating scale, one a measure of behavior in the program (by instructors) and the other a measure of behavior on the ward (the average of two attendant nurses, morning and afternoon). For the 14 control subjects <u>one</u> measure of behavior was obtained for each rating scale, a measure of behavior on the ward (again, the average of two attendant nurses).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Statistical Analysis

It was decided that the data in this study would be most appropriately analyzed by nonparametric statistics (Siegel, 1956). The experimenter was not willing to make the explicit assumptions about the nature of the data necessary for the meaningful employment of parametric statistics, e.g., the normality of parent distributions and the homogeneity of variances. Knowledge about these parameters was lacking.

Four nonparametric statistical tests were used, two for related samples and two for independent samples. The tests for related samples were used to measure pre-post change separately for both the control and experimental groups. The tests for independent samples were used to measure differences between experimental and control groups before and after three months. The reason for using two nonparametric statistical tests for each kind of sample, related and independent, was differences in level of ordinal measurement.

All of the statistical tests of pre-post change for the control and experimental groups were one-tailed. The form of the MMPI and ICL data, dependent as it is upon the methodology of the Interpersonal System of Personality, precludes its statistical analysis for pre-post group change. For the PIL scores the Wilcoxon matched-pairs signed-ranks test for two related samples was used to measure the pre-post change separately for the control and experimental groups. The Wilcoxon test is a fairly powerful statistical test for ordinal data. It utilizes information about the magnitude of the differences between

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

pre- and post-testing, i.e., it gives more weight to a pair of scores which shows a large difference between pre- and post-testing than a pair which shows a small difference. The PIL data fully justify the use of this statistical test. However, the investigator was a little less confident about the two rating scales, the PRP and BARS, even though a stable measure was attempted by averaging the ratings of two ward teams, the morning shift and the afternoon shift. Consequently, the scores from these measures were analyzed with the sign test for two related samples. The sign test assumes a lower level of ordinal measurement than does the Wilcoxon test. It utilizes information simply about the direction of the differences between pre- and post-testing, using plus and minus signs rather than quantitative measures as data. For the experimental group the pre-post change was measured both when the ratings were made by attendant nurses and by program instructors. For the PRP, the four dimensions were statistically combined and treated as a single scale of psychopathology. This was done because of the small N's for the dimensions: for the sign test those subjects whose scores do not change from pre- to post-testing are dropped from the analyzis and there is a "shrinkage" of N. There were no problems in treating the four dimensions as one scale with the sign test. The result is an over-all score which gives a more accurate measure of pre-post change for the control group and the experimental group (both ward and program raters).

All of the statistical tests used for the pre-comparison and post-comparison were two-tailed. The pre-comparison differences could not be measured on the MMPI or ICL, because of the methodology of the Inter-

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

personal System. The post-comparison differences could be measured on these two instruments. Discrepancy indices for the MMPI and ICL diagnostic codes were compared for the experimental and control groups with the Mann-Whitney U test for two independent samples. Both pre- and post-comparisons of the experimental and control groups were made on each of the other three measures. The post-comparison depends upon the pre-comparison after the attrition of subjects, so a pre-comparison after attrition was also made on each of the three measures. For the PIL scores the Mann-Whitney U test was also employed. The Mann-Whitney U test is a fairly powerful statistical test for ordinal data. The MMPI, ICL, and PIL data fully justify the use of this statistical test. However, the investigator was again a little less confident about the two rating scales, the PRP and BARS, even though the mean of two independent ratings was taken on them when filled out by attendant nurses. Consequently, the scores from these measures were analyzed with the median test for two independent samples. The median test assumes a lower level of ordinal measurement than does the Mann-Whitney U test. For the PRP, the four dimensions were again statistically combined and treated as a single scale of psychopathology. As with the sign test, there were no problems in treating the four dimensions as one scale with the median test. The scores on all four dimensions are expressed in percentiles, which were ranked, and the number counted above and below the median for the experimental and control groups, yielding a probability index.

The Wilcoxon matched-pairs signed-ranks test results and the Mann-Whitney U test results are expressed in a number which is either $\geq$ or $\leq$

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

some critical value at the chosen level of significance. The sign test results and the median test results are expressed in probabilities, p= and p< respectively. It was decided to use the .05 level of significance for both pre-post change and pre- and post-comparisons.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

RESULTS

It was predicted that the pre-post changes on the personality measures would be in the positive direction for both the control and experimental groups, with the positive change of the experimental group greater than that of the control group. The results were inconsistent and did not lend very much support to these predictions.

The pre-post change of control and experimental groups on three personality measures (PIL, PRP, and BARS) is shown in Table 1. All statistical tests were one-tailed because the prediction was made that all changes would be in the positive direction, with the experimental group showing the greater improvement. Pre-post change could not be measured on the MMPI or ICL because of the methodology of the Interpersonal System. (The Interpersonal System is designed to facilitate the comparison of indices of change between two matched groups, a control group and an experimental group. This was done in this study and the results are discussed below under post-comparison of experimental and control groups.) The pre-post change for the control group was not significant at the .05 level of confidence on any of the three personality measures. However, the result on the PRP was close to significance, and the change was in the predicted direction of improvement. The change for the experimental group was not significant at the .05 level of confidence on the PIL, BARS, or PRP when completed by program instructors. However, the result was highly significant on the PRP when completed by attendant nurses, and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 1

Pre-Post Change of Control and Experimental Groups

on Three Personality Measures

Personality Measures	Statistical Tests	Control Group		Experimental Group	
		N	T=	N	T=
PIL	Wilcoxon	9	20[a]	15	57[a]
		N	p=	N	p=
PRP	Sign				
Ward raters		35	.09	65	.007[b]
Program raters		--	---	48	.06
BARS	Sign				
Ward raters		11	.50	21	.09
Program raters		--	---	19	.18

Note.--All tests one-tailed.

[a]Not significant at .05 level.

[b]Significant change in predicted direction.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

the change was in the predicted direction of improvement. The PRP completed by attendant nurses was the only measure whose results were consistent with the initial prediction, i.e., both groups improving, with the experimental group showing the greater improvement. When the PRP ratings were completed by program instructors the result was almost significant in the direction of a worsening of scores. The result from the BARS completed by attendant nurses was also fairly close to the significance level, and the change was an improvement.

The pre-comparison and post-comparison of experimental and control groups on three personality measures (PIL, PRP, and BARS) are shown in Table 2. Both the pre-comparison and post-comparison statistical tests were two-tailed. In measuring the differences between the original experimental and control groups on the PIL with the Mann-Whitney test, the result is presented as $p=.51$. This formulation is used because for large samples ($n_2>20$) the normal distribution provides a good approximation to the sampling distribution of U, and results based upon the normal distribution are expressed in probabilities. The differences between the original experimental and control groups were not significant at the .05 level on either the PIL or PRP. This suggests that the two original groups were relatively comparable on the variables measured by these criteria. However, on the BARS the probability that the differences between the scores of the two original groups is due to chance is less than .05. The difference in this instance is in favor of the 14-S control group, for most of these scores were above the median of the total distribution,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 2

Pre-Comparison and Post-Comparison of Experimental and Control Groups on Three Personality Measures

Personality Measures	Statistical Tests	Pre-Comparison		Post-Comparison			
		Original Groups		After Attrition			
		N	U=	N	U=	N	U=
PIL	Mann-Whitney	46	p=.51	24	58[a]	24	63[a]
		N	p<	N	p<	N	p<
PRP	Median	192	.30	128	.20	128	.10
BARS	Median	48	.05[b]	32	.50	32	.50

Note.--All tests two-tailed.

Note.-- N = number of two groups combined.

[a]Not significant at .05 level.

[b]Original group difference in favor of control group.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

whereas most of the scores of the 34-S experimental group were below the median. Thus, the two original groups differed significantly in favor of the control group on the variables measured by the BARS.

The next column of Table 2 gives the U value and probabilities of differences between the experimental and control groups after the attrition of subjects. It is this pre-comparison with which the post-comparison experimental-control group differences should be contrasted, because the identical subjects were involved in both cases. None of the differences were significant at the .05 level, which suggests that in spite of the non-random attrition rate the two groups were relatively comparable on the variables measured by the PIL, PRP, and BARS. (The attrition increased the comparability of the two groups on the BARS.)

The last column of Table 2 shows the extent of experimental-control group differences after a period of three months. These post-comparison data were not significant on the MMPI or ICL. In the case of the MMPI, indices of the amount of pre-post change in the control group (N=10) and in the experimental group (N=16) were compared and the result was U=77 which is not significant. In the case of the ICL, indices of the amount of pre-post change in the control group (N=10) and in the experimental group (N=15) were also compared and the result was U=53 which is again not significant. The experimental-control group differences were also not significant at the .05 level on the PIL, PRP, or BARS. On these five personality measures the experimental and control groups did not differ significantly after

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

the enrollment of the experimental subjects in the Adolescent Vocational-Activities Program for three months. A visual comparison of the differences between the experimental and control groups on the PIL, PRP, and BARS before and after three months reveals no change or only minor change in the probabilities that the differences between the two groups are due to chance.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

DISCUSSION

This study was conducted to investigate the behavior of patients who were enrolled in the Adolescent Vocational-Activities Program at Traverse City State Hospital for a period of three months. Personality inventories and rating scales were employed to measure changes in patient behavior. Two kinds of statistical presentations were made: (1) a simple pre-post change of the control and experimental groups separately to see if either group changed as expected and, if so, whether the experimental group improved more than the control group, and (2) a comparison of the differences between the experimental and control groups (a) as originally composed, (b) with the attrition of subjects, and (c) after a period of three months. It was planned that a combination of these two statistical presentations would suggest the "movement" of patients in the program.

With respect to the first statistical presentation, the results showed that for the control group none of the three criteria showed significant change at the .05 level, although one change was fairly close to significant improvement. For the experimental group only one of the criteria showed significant change at this level (PRP by ward raters), although two other changes were close to significance (one positive and one negative). Thus, with the exception of one nearly significant result (which is discussed below), the significant and near-significant results tended to support the prediction that patients in the Adolescent Vocational-Activities Program improve more

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

on the variables measured by the PRP and BARS than patients who are not in the program.

With respect to the one nearly significant but unpredicted result, the worsening of scores on the PRP for the experimental subjects who were rated by program instructors, two possible explanations come to mind. First, the behavior of the experimental subjects with respect to the variables measured by the PRP was actually sharply different in the two settings, ward and program, with the ward behavior significantly improving on these variables and the program behavior almost worsening. Second, the pre-ratings made by the program instructors were contaminated, i.e., they reflected a lower level of behavioral pathology than actually existed because the subjects' behavior when first entering the program was atypical; thus, even though an improvement took place during the three months, it appeared as a worsening when the pre-ratings were compared with the post-ratings to obtain the sign of the difference. The first explanation seems improbable because such a drastic difference in subjects' PRP ratings would require that their behavior with respect to these variables improve on the ward while worsening in the program. The combination of the four dimensions, being a fairly broad scale of psychopathology, makes such sharp changes in the behavior of the same subjects suspect. The second explanation seems more probable. It will be recalled that the PRP ratings were made by attendant nurses and program instructors after about one week of observation. When the patients were referred to the program, the three-month pre-post evaluation period represented no change in their ward environment. The attendant nurses

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

had previous experience with the subjects and the one-week observation period simply provided a basis upon which to rate the subjects current behavior. These judgments showed significant improvement in the subjects' behavior on these variables. In contrast, the PRP ratings made by program instructors were based upon a one-week observation period which was the subjects' initial contact with the program, the program personnel, and the program standards of conduct. Under such novel conditions, the new program patients were probably less expressive than they were on the ward. They would probably be a little inhibited while being introduced to the program, and tend to show their behavioral pathology less. Hence, they would tend to receive scores on the PRP over-all scale of psychopathology which were not accurate measures. After three months, the ratings would more accurately reflect the patients' levels of functioning. When the pre-post comparison was made, even though the improvement had taken place, it would appear that the behavior had worsened because the initial judgments were overestimates of the subjects' true levels of functioning.

With respect to the second statistical presentation, the results showed that the differences between the two groups were not significant at the .05 level either at the beginning of the three months (with attrition) or at the end of the three months. The fact that they were not significant at the beginning of the three months suggests that the two groups were relatively comparable on these personality measures. The fact that they were not significant at the end of the three months is not surprising in light of the results

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

from the first statistical presentation. The problems accompanying the second presentation are particularly critical and are discussed below.

First, it was differences between groups on the criteria which were measured. Therefore, if both groups changed equally in the same direction (from Table 1), this change would not be revealed in Table 2. For example, Table 1 shows that on the PRP (ward raters) both groups improved, the control group fairly significantly and the experimental group very significantly. Thus, it is understandable that the group difference on this measure would be slight, as is indicated in Table 2. Hence, no significant difference between the experimental and control groups in measurements of personality change on Table 2 does not necessarily mean that neither group changed significantly, either favorable or unfavorable, because both groups could have improved significantly without showing a significant difference in amount of change.

Second, any change revealed in Table 2 would not indicate which group changed or whether both groups changed in the same or opposite directions (this information is obtained by examining Table 1 in conjunction with Table 2). This is why the combination of both statistical presentations is necessary for accurate interpretation of the results.

Third, on the MMPI and ICL, even if there was a significant change in the differences between the two groups on post-comparison, the complex nature of Interpersonal System measurement is such that

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

"change" in personality reflected by the discrepancy indices is not necessarily improvement. Thus, any change would not necessarily indicate a positive or "good" change.

Fourth, the validity of the post-comparisons depends directly upon the degree to which the two groups, experimental and control, are initially similar on the variables measured. For the MMPI and ICL results there were no pre-comparison figures with which to compare the post-comparison figures, because the data were not amenable to this kind of statistical analysis. Only the final group differences could be measured and these were not significant. For the PIL, PRP, and BARS there were pre-comparison figures, but they are the probabilities that the differences between the two groups are due to chance rather than an estimate of their essential comparability.

Perhaps it is not surprising then, for these reasons, that the second statistical presentation, the comparison between groups, was not in accordance with the initial prediction, and did not interrelate well with the first presentation.

It was recognized at the beginning of the study that evaluation of any rehabilitation program as a whole by means of psychometric instruments is almost impossible. Progress in evaluation can come only when the large question is broken down into smaller questions which are less complicated, more precise, and more amenable to investigation. It was this line of thinking which guided the present study. However, the relatively few significant changes in results

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

suggest two possible interpretations: (1) the psychometric instruments employed did not adequately measure improvement in behavior brought about by the program, and (2) the tests adequately measured improvement but there were no group differences in improvement. The limited range of the five personality measures in comparison with all the various kinds of behavior which the program facilitates, as well as the limitations of the experimental design, must be acknowledged as sources of inaccuracy in the present study. They tend to support the first interpretation rather than the second.

However, the few results which were significant or nearly significant tended to support the initial prediction that patients in the Adolescent Vocational-Activities Program improve more than patients who are not in the program. It is impossible to relate these positive results to research on the three similar programs reviewed in the introduction, because none of these programs has yet produced any evaluative research. However, the results of this study may provide a starting point for future research on this many faceted rehabilitation program and other similar kinds of rehabilitation programs.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

SUMMARY

This study was conducted to investigate the behavior of adolescent and young adult psychiatric inpatients at Traverse City State Hospital who were enrolled in a comprehensive rehabilitation program called the Adolescent Vocational-Activities Program. The objective of the study was to partially evaluate the program in a systematic way that would empirically substantiate the generally favorable impression already created. Personality inventories and rating scales were employed before and after a three-month period to measure changes in the behavior of two groups of patients, a 35-patient experimental (program) group and a 14-patient control (no program) group. It was predicted that the pre-post changes on the personality measures would be in the positive direction for both groups, with greater improvement for the experimental group than for the control group. The results on one rating scale (Psychotic Reaction Profile) supported these predictions, but the results on two other measures (Purpose-in-Life Test, Behavioral Adjustment Rating Scale) did not support the predictions at the .05 level of confidence. Some of the possible sources of inaccuracy in the study were discussed in a way that might be helpful to future research on this and other rehabilitation programs.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

REFERENCES

Astin, A. W. The functional autonomy of psychotherapy. Amer. Psychologist, 1961, 16, 75-78.

Bishop, D., & Mann, D. School by prescription. Taproots, 1964, 1 (1), 6-7, 22.

Bond, J. G. Educational therapy project (Progress Report to the National Institute of Mental Health). September 30, 1966.

Casey, J. F., Hollister, L. E., Klett, C. J., Lasky, J. J., & Caffey, E. M. Combined drug therapy of chronic schizophrenics. Amer. J. Psychiatry, 1961, 117, 997-1003.

Crumbaugh, J. C., & Maholich, L. T. An experimental study in existentialism: the psychometric approach to Frankl's concept of noogenic neurosis. J. clin. Psychol., 1964, 20, 200-207.

Crumbaugh, J. C. Cross-validation of purpose-in-life test based on Frankl's concepts. J. indiv. Psychol., 1968, 24, 74-81.

DeCharms, R. D., Levy, J., & Wertheimer, M. A note on attempted evaluations of psychotherapy. J. clin. Psychol., 1954, 10, 233-235.

Dent, J. K. A bibliographic index of evaluation in mental health. U. S. Department of Health, Education, and Welfare: Public Health Service Publication No. 1545, 1968.

Eysenck, H. J. The effects of psychotherapy: an evaluation. J. consult. Psychol., 1952, 16, 319-324.

Eysenck, H. J. A reply to Luborsky's note. Brit. J. Psychol., 1954, 65, 132-133.

Eysenck, H. J. The effects of psychotherapy: a reply. J. abnorm. soc. Psychol., 1955, 147-148.

Eysenck, H. J. (Ed.) Handbook of abnormal psychology. New York: Basic Books, 1961.

Göknar, M. K. Psychiatric focus on youth. Mich. Mental Health Res. Bull., 1968, 2 (1), 36-39.

Hathaway, S. R., & McKinley, J. C. Manual for the minnesota multiphasic personality inventory. New York: Psychol. Corp., 1951.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

LaForge, R., & Suczek, R. F. The interpersonal dimension of personality: III. An interpersonal check list. J. Pers., 1955, 24, 94-112.

Lasky, J. J., Klett, C. J., Caffey, E. M., Bennett, J. L., Rosenblum, M. P., & Hollister, L. E. Drug treatment of schizophrenic patients. Dis. nerv. Syst., 1962, 23, 698-706.

Leary, T. Multilevel measurement of interpersonal behavior. Berkeley: Psychological Consultation Service, 1956.

Leary, T. Interpersonal diagnosis of personality. New York: Ronald, 1957.

Lorr, M. Manual for the psychotic reaction profile. Beverly Hills, Calif.; Western Psychological Services, 1961.

Lorr, M., O'Connor, J. P., & Stafford, J. W. The psychotic reaction profile. J. clin. Psychol., 1960, 16, 241-245.

Luborsky, L. A note on Eysenck's article "The effects of psychotherapy: an evaluation." Brit. J. Psychol., 1954, 65, 129-131.

Rabin, B., Bond, J., & Lauber, J. How education can be therapy. Motive, March-April, 1966, 10-15, 30-31.

Rosenzweig, S. A transvaluation of psychotherapy--a reply to Hans Eysenck. J. abnorm. soc. Psychol., 1954, 49, 298-304.

Siegel, S. Nonparametric statistics for the behavioral sciences. New York: McGraw-Hill, 1956.

Sommerness, M. D., & Curtiss, O. J. A new program in an old building. Hosp. & Com. Psychiatry, 1966, 303-305.

Sommerness, M. D., & Curtiss, O. J. A comprehensive new program for young patients. Mich. Mental Health Res. Bull., 1968, 1 (2), 39-41.

Watson, R. I. Research design and methodology in evaluation the results of psychotherapy. J. clin. Psychol., 1952, 8, 29-33. (a)

Watson, R. I. Measuring the effectiveness of psychotherapy: Problems for investigation. J. clin. Psychol., 1952, 8, 60-64. (b)

Watson, R. I., & Mensh, I. N. The evaluation of the effects of psychotherapy: I. Sources of material. J. Psychol., 1951, 32, 259-273. (a)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Watson, R. I., Mensh, I. N. The evaluation of the effects of psychotherapy: II. A case study. J. Psychol., 1951, 32, 275-291. (b)

Watson, R. I., Mensh, I. N., & Gildea, E. F. The evaluation of the effects of psychotherapy: III. Research design. J. Psychol., 1951, 32, 293-308. (c)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

APPENDIX A

Sex and Age of Subjects in Two Groups

	Control Gr. (N=14)	Experimental Gr. (N=35)	Total Ss (N=49)
Sex			
Male	6	20	26
Female	8	15	23
Age			
Mean	22.5	20.1	20.8
SD	3.7	4.3	4.2

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

APPENDIX B

Psychiatric Diagnosis of Subjects in Two Groups

	Control Gr. (N=14)	Experimental Gr. (N=35)	Total Ss (N=49)
Schizophrenic reaction	10	12	22
Transient situational personality disturbance	1	10	11
Personality trait disturbance	1	3	4
Personality pattern disturbance	0	2	2
Chronic brain syndrome associated with convulsive disorder	0	2	2
Chronic brain syndrome of unknown or unspecified cause	0	2	2
Mental deficiency	1	1	2
Sociopathic personality disturbance	1	1	2
Psychoneurotic depressive reaction	0	1	1
Chronic brain syndrome associated with trauma	0	1	1

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

APPENDIX C

Number of Admissions and Length of Hospitalization of Subjects in Two Groups

	Control Gr. (N=14)	Experimental Gr. (N=35)	Total Ss (N=49)
Number of Admissions			
Mean	1.2	1.2	1.2
Length of Last Hospitalization			
Mean (in months)	26.6	12.4	16.4

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

APPENDIX D

Behavioral Adjustment Rating Scale (BARS)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

BEHAVIORAL ADJUSTMENT RATING SCALE (BARS)
for the
ADOLESCENT ACTIVITIES PROGRAM
at
TRAVERSE CITY STATE HOSPITAL

Enrollee_____ Age_____ Sex_____ Rater_____

No. Months in Program_____ Total Points_____ Date_____

The purpose of the Adolescent Activities Program is to improve adolescents' social behavioral skills and vocational skills. Under these two general classifications below is a series of statements. Please rate the degree of favorableness or unfavorableness expressed by each statement with respect to the adolescent or young adult whose name appears at the upper left of the paper. Indicate your choice by circling a number on the scale or behavioral continuum corresponding to the aspect of the person being rated. The adjectives below the numbers are intended only to help the rater judge the degree on the scale. Then put your name and the date at the upper right of the paper.

Note to Raters: The question often comes up on this kind of evaluation, "With reference to who or what should I rate this patient?" The basis for judgement on this rating scale should be the total general population of adolescents and young adults, and not the population of hospitalized persons.

I. Social Skills

1. His attitude toward first meeting people

1	2	3	4	5	6
Antisocial, antagonistic, hostile resentful	Aloof, Indifferent	Over-cautious, reluctant wary	Cautious, shy	Friendly, warm	Very friendly, sociable

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

2. His behavior in situations involving matters of social custom and common courtesy in our culture

1	2	3	4	5	6
Very bizarre	Inappropriate	Sometimes inappropriate	Seldom inappropriate	Appropriate	Always appropriate

3. His behavior in threatening or stressful situations; such as being criticized by a classmate

1	2	3	4	5	6
Hostile, cries, fights, withdraws	Makes insults, leaves the room angry	Is offended, irritable, defiant	Submissive, remains indifferent	Defends his viewpoint in light of criticism	Responds to criticism or modifies viewpoint

4. His emotional maturity

1	2	3	4	5	6
Very childlike behavior					Very adultlike behavior

5. His attitude toward, and relationships with, boys

1	2	3	4	5	6
Antisocial, no boy friends	Indifferent	Distant	Cordial	Hassome boy friends	Has many close boy friends

6. His attitude toward, and relationships with, girls

1	2	3	4	5	6
Antisocial, no girl friends	Indifferent	Distant	Cordial	Has some girl friends	Has many close girl friends

7. His attitude toward, and relationships with, instructors and other personnel

1	2	3	4	5	6
Rebells against authority figures	Is a problem for personnel	Tolerates personnel	Tries to co-operate with personnel	Often helps personnel	A definite help to personnel

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

8. His interaction with others in recreational and social activities

1	2	3	4	5	6
Never interacts, stays to himself, a loner	Seldom interacts	Sometimes interacts	Often interacts	Usually interacts	Always interacts, active participant, stimulates others

9. The frequency of his trivial complaints

1	2	3	4	5	6
Express dissatisfaction with everything and everybody	Usually complains	Often complains	Occasionally complains	Rarely complains	Never complains of trivialities

10. His emotional stability

1	2	3	4	5	6
Gets upset very easily, has temper tantrums	Irritable	Moody	Self-control	Well controlled	Very stable or balanced emotionally

11. His dependency

1	2	3	4	5	6
Needs constant supervision	Usually needs supervision	Often needs supervision	Occasionally needs supervision	Rarely requires supervision	Very autonomous

12. His capacity for accepting responsibility

1	2	3	4	5	6
Can't be trusted	Rarely responsible	Usually irresponsible	Usually responsible	Rarely irresponsible	Readily accepts responsibility

13. His grooming and interest in caring for personal appearance

1	2	3	4	5	6
Very poor, no concern, unkept	Usually sloppy	Often careless	Acceptable, some concern	Good, usually neat	Excellent concern, well groomed

14. His ability to communicate

1	2	3	4	5	6
Has considerable difficulty in communicating					Communicates very easily and clearly

II. Vocational Skills

1. His ability to pronounce words from phonetic sounds

1	2	3	4	5	6
Only rote memorization for the pronunciation of words					Can sound out most words without difficulty

2. His ability to understand the meaning of what he has read

1	2	3	4	5	6
Very poor					Excellent

3. His ability to learn and reason, i.e., "catch on" to new tasks, procedures, or ideas

1	2	3	4	5	6
Very slow	Slow	Rather slow	Rather rapid	Rapid	Very rapid

4. His attention and concentration

1	2	3	4	5	6
Very inattentive, distractible					Attention good, hard to mislead

5. His ability to work skillfully with his hands (at projects, sewing, typing, etc.) and quality of workmanship

1	2	3	4	5	6
Very limited	Limited, inept	Slightly limited, careless	Acceptable, passable	Good	Exceptionally skillful

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

6. His persistence to finish a job once started

1	2	3	4	5	6
Loses interest easily	Poor	Below average persistence	Above average persistence	Good	Sticks with job until finished

7. His judgement: consider how he reacts to situations

1	2	3	4	5	6
Notably lacking in balance and restraint	Some tendency to react impulsively or without restraint	Acts judiciously only in ordinary circumstances	Satisfactory judgement most of time	Shows good or well-developed judgement	Soundness of judgement inspires unusual confidence

8. His initiative: consider his ability to proceed on his own, or suggest and try new ways, and his energy output

1	2	3	4	5	6
Must be prodded to start anything and directed to continue it	Requires urging, must tell what to do	Routine worker, confines self to assigned duties	Goes ahead with little help	Self starter, starts own jobs	Completes additional work that is suggested

9. His dependability: the degree to which he will do what is asked in proper way

1	2	3	4	5	6
Requires continual supervision and follow-up	Requires follow-up	Reliable only under routine circumstances	Usually reliable	Usually very reliable	High dependability justifies utmost confidence

(Items 10-14 are to be rated for <u>boys only</u>.)

10. His ability to do arithmetic

1	2	3	4	5	6
Simple addition only	Addition and subtraction	Addition, subtraction and multiplication	Addition, subtraction, multiplication and division	Can do these operations with fractions and decimals	Can do all these operations rapidly & accurately

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

11. His ability to visualize objects in 2 or 3 dimensions

1	2	3	4	5	6
Very limited	Limited	Slightly limited	Acceptable	Good	Excellent

12. His ability to see slight differences in shape and size

1	2	3	4	5	6
Very limited	Limited	Slightly limited	Acceptable	Good	Excellent

13. His co-operativeness in doing routine jobs, etc. around the school

1	2	3	4	5	6
Unwilling to take part	Not a good team worker	Usually not a good team worker	Usually a good team worker	Always ready to do his share willingly	Goes out of his way to cooperate cheerfully

14. His knowledge of equipment, shop policies, and safety standards

1	2	3	4	5	6
Needs constant help, forgets procedures, a hazard					Can repair equipment, knows correct procedures, a safe worker

(Items 10-14 are to be rated for <u>girls only</u>.)

10. Her ability to cook

1	2	3	4	5	6
Very poor	Poor	Quite poor	Acceptable	Good	Excellent

11. Her ability to sew

1	2	3	4	5	6
Very limited	Limited, inept	Slightly limited, careless	Acceptable, passable	Good	Exceptionally able

12. Her ability to iron

1	2	3	4	5	6
Very limited	Limited, inept	Slightly limited, careless	Acceptable, passable	Good	Exceptionally able

13. Her expression of interest in, or plan for, career work; e.g., secretarial, beautician, etc.

1	2	3	4	5	6
No expression of interest or plan					Expresses enthusiasm, has plan

14. Her resources for pursuing career training in the Vocational Activities Program

1	2	3	4	5	6
Very limited resources					Possess aptitude and potential

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.