INFLUENCE OF VOCATIONAL TRAINING ON THE SELF-CONCEPT OF THE PHYSICALLY HANDICAPPED

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INFLUENCE OF VOCATIONAL TRAINING ON THE SELF-CONCEPT OF THE PHYSICALLY HANDICAPPED

THESIS

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By

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CHAPTER I

PRESENTATION OF THE PROBLEM

Introduction

Rehabilitation has played a very important role in many people's lives. In the United States rehabilitation had its formal beginning as a government service in 1919 in New Jersey. Since then it has come a long way. Rehabilitation is generally thought of as the third phase of medicine. There are many definitions of rehabilitation. The National Council on Rehabilitation defines rehabilitation as the "restoration of the handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable" (9, p. 20). They see the main purpose of the rehabilitation center as being "to make a reality the placing of the individual in society as a functioning member" (9, p. 20). Rusk says, "The practice of rehabilitation for the physician begins with the belief in the basic philosophy that the doctor's responsibility does not end when the acute illness is ended or surgery is completed; it ends only when the individual is retrained to live and work with what is left. This basic concept of the doctor's responsibility can be achieved only if rehabilitation is considered an integral part of medical service" (6, pp. 1-34). Another definition of rehabilitation given by Reedy is, "The organized effort to restore the handicapped to maximum usefulness" (7, p. 966).
Reedy (7) sees the central goal of rehabilitation as the restoration of the individual to an employed or more advantageous employable status. This is essentially vocational rehabilitation. Vocational rehabilitation is of equal importance to the other phases of rehabilitation and is also the last phase. Vocational rehabilitation or training is an instrument of service and education and also a valuable asset. Jacobs describes vocational rehabilitation as "that process in a total rehabilitation program through which an individual with physical, mental, or emotional handicap, is helped to achieve the maximum utilization of his vocational assets" (6, p. 459). Inclusive in this is that the final goal of rehabilitation is "the effective integration of the individual in his community and assuming his rightful role as a competent and contributing member of society" (6, p. 459).

Presentation of the Problem

This study was conducted in order to investigate the hypothesis that the vocational rehabilitation training situation is itself therapeutic. The training situation is of course attempting to complete the final phase of rehabilitation by actually helping the handicapped individual to go out into the world again as a productive human being. English and English define therapy as a "treatment intended to cure or alleviate a disordered condition, so that normal functioning is brought about" (1, p. 552).
This definition of therapy would seem to include the vocational training situation. The individual in the training situation is attempting to come closer to previous normal functioning. Therefore, the vocational training should ideally be a therapeutic effect. This is the chief problem for this study.

There has been little research conducted in this area. Only one factual study was found in this area. Since so much money is being poured into vocational training by so many various agencies it would seem profitable and important to know if a part of the expectancy of vocational training is being fulfilled. Greater amounts of money are being allotted to these types of situations, and if part of the intended effect is not taking place it would be important to know.

**Background Knowledge and Theory**

This last goal of rehabilitation, vocational rehabilitation, is to help train the handicapped individual so that he many go out in society and be a productive individual. May describes psychological therapy as a "learning or relearning process by which the individual overcomes previous unfortunate learning experiences which have resulted in blocking off an awareness (repression), curtailing of actions (inhibitions), and development of complicated processes of substitutive gratification on less mature levels (symptom formation)"(4, p. 33). Besides just a place where an individual is given vocational
training, a physically handicapped individual receives much more. Through a series of self-directed and successful experiences in the training situation the individual may attain a more realistic view of his capacities and limitations. Work tolerance is learned. Hope is given—hope for a favorable future. The training situation is a learning situation, as described by May (4). This is true more because of the atmosphere which the subject is in than because it is a place of formal learning and teaching. In a supportive, encouraging, and accepting environment the subject learns to accept himself and his limitations and to have hope for what appears to be a brighter future. He is also given opportunity for a very important part of his life, social interaction, which many disabled individuals avoid. The subject relearns so that he achieves a more mature level.

Clara Thompson seems to feel that the person in therapy "requires the passage of time in order to consolidate his new insights and incorporate them as a part of his daily living. The repeated testing out and seeing over and over again what is going on seems to be the prerequisite for the process of growth and change. . . ." (4, p. 34). The physically handicapped individual in the training situation is given this opportunity in a supportive atmosphere where he is accepted without pity. He can learn on his own what his limitations are. He is encouraged to use every ability he has and to find new ways to do those things which his disability prevents him from
doing as he did before. The physically handicapped individual in this situation is encouraged to test out the environment in every way, and his ability to interact with it.

In a study by Gillan (2) the vocational rehabilitation program was found to be therapeutic. Gillan stated that it was necessary to provide occasions for the trainees to get insight into the previous pattern of behavior whereby they manipulated the environment to support their dependency. It was hoped that the reverse would in time take place and that the trainees would then begin to manipulate the environment to bolster their ego strengths and bring out the direct application of their capacities to training or work adjustment programs (2, p. 83). This was found to take place.

McCoy and Rusk (5) found in a follow-up study that ninety per cent of the physically handicapped individuals participating in a vocational training situation benefited from it. In another study made by Sweetland (10) it was found that three-fourths of a group who had participated in a vocational training experience had made good work adjustments after a year, and that the adjustments of the rest of the group improved with their work experience.

Wilson (10) sees vocational rehabilitation as more than just a service offered to physically handicapped individuals. Through vocational rehabilitation direct therapeutic results are achieved by personal and economic adjustment. The therapeutic results are also achieved through mental and physical therapy. Wilson
also states that the "planning, training, and achievement of a vocational goal involves much more than economic adjustment, but also adjustment to the social, civic, physical, and moral world through the creation of many new and the transition of many old dispositions" (10, p. 201). Jacob states that a "rehabilitation which tries to help a person in work assumes important role in our society and is therefore considered to be quite important to an individual in our society."

Vocational training is therapeutic because of the situation and atmosphere it provides. But it goes far beyond that. The goal of vocational rehabilitation is to train the individual to use as much as possible of what he has left and to get him out in society as a useful and productive individual. Then an important part of the goal is actually a job or vocation. Gabot states that "there is a spiritual value in being paid in hard cash. For though money is no measure of the individual value in work, it gives precious assurance of some value, some usefulness to people out of the worker's sight. Workers who do not need a money wage for the sake of anything they can buy with it, still need it for its spiritual value. . ."(10, p. 199).

Super (8) sees three needs which are sought in work and satisfied by it. The first need is that of human relations, in which the individual strives for recognition as a person. Next, work is seen as an activity in which most of an individual's time is spent. Work is also a very important means of earning men's livelihood. Super sees work as being the "most nearly
dominant single influence of a man's life" (8, p. 257). It is no wonder then that work is so important to an individual in a society such as ours. To the physically handicapped individual work means even more. Work then acquires the meaning of being a total person. It has the ability of giving back to a person his self-respect. Work has the possibility of assuring the disabled individual that he has some value and some reason for living.

Although most people satisfy needs by working, 1) an individual sees work as an opportunity to provide for himself and his family; 2) as an individual he needs work which is related to his basic vocational interests; 3) he wants a job which will give him a feeling of accomplishment; and last, 4) he wants a job which he can identify with. Hochhauser and Pattison see work as "nature's best physician and as essential to human happiness" (6, p. 462). If work is considered to be of so much importance, then the prework period when an individual is learning a skill or preparing for work in some way is also very important.

Hypothesis

This study hypothesized that if the vocational rehabilitation training experience and situation were therapeutic, this therapeutic effect could be measured by an increase in self-concept level. English and English define self-concept as "a person's view of himself; the fullest description of himself of which a person is capable at any given time. Emphasis is
upon the person as an object of his own self-knowledge, but his feelings about what he conceives himself to be are usually included" (1, p. 486). Wright (11) sees the self-concept as being very important in one's world, or life space. Litman (3) found in a study of physical handicaps that self-conception was directly related to response to rehabilitation. The work or occupational role, in our society, is an index of status. Since an individual able to fulfill the work role is seen as adequate and self-sufficient, the work role is directly related to an individual's self-concept (6, p. 460). The ability to work and hold a job is very important to a well-integrated personality.

The vocational training situation is designed to enable physically handicapped individuals to function in a work setting. This situation should be therapeutic, as it is a prelude to the real work setting. The importance of the work role to the self-concept was discussed above. Therefore, in order to measure any therapeutic effect, self-concept change was to be measured by the administration of a test and retest of the Gough Adjective Check List to three different groups of subjects: 1) a group of physically handicapped medical patients only, 2) a group of physically handicapped employed individuals, and 3) an experimental group, consisting of physically handicapped clients in a training situation. A therapeutic effect would be noted by a rise in self-concept while in the training situation.
CHAPTER BIBLIOGRAPHY


CHAPTER II

METHODOLOGY

Subjects

This study was of nineteen subjects, nine in the experimental group, three in control group I, and seven in control group II. All subjects consisted of all types of physically handicapped individuals. Due to the small size of this particular rehabilitation center, there was no control set for date of onset, age, type of disability, or difference in economic, education, or class level.

Many of the subjects in this study were being or had at one time been sponsored by the Division of Vocational Rehabilitation, which is a state organization. A client of the Division of Vocational Rehabilitation must fall under the following qualifications (15): 1) the individual must have an occupation handicap because of his disability; 2) he must be of legal employment age; and 3) he must be capable of being made employable or more advantageously employable through rehabilitation services. The prospective client's physical condition must be static. Other sponsoring agencies have similar qualifications. Some subjects were being sponsored by various insurance agencies.

All subjects in the experimental were receiving vocational rehabilitation in a class-type setting at the Caruth Memorial
Rehabilitation Center. Class was conducted from 9:00 a.m. to 3:00 p.m., five days a week. The subjects in the experimental group were taking courses selected from the following subjects: typing, shorthand, English, bookkeeping, accounting, mathematics, business machines, handwriting adaptation, and drafting. Some of the subjects in the experimental group were not living at the Center, but it was felt that they would still show some improvement not only by participating in the vocational training but also through the time they spent before and after class at the Center. There were five males and three females, ranging from twenty to thirty-five years of age, composing this group.

The first control group was made up of physically handicapped individuals who were present at the Caruth Memorial Rehabilitation Center for medical reasons only. They were taking advantage of the services offered by physical therapy, occupational therapy, speech therapy, and vocational evaluation. Problems were encountered here in obtaining subjects, as very few individuals were spending a three-month period and only a few were being kept for a month at the Center. Also, the patient's status was frequently changed, or patients that were to be there for at least a month were let go before this duration had expired. This group consisted of two males ages twenty-seven and fifty-six respectively. Both the experimental and control group I were subjected to essentially the same environment, the difference being that the experimental group was in the training situation.
Meisel Photochrome Corporation employees were used in control group II. Most of these subjects worked the late shift and fell into many types of disability categories. Some had been treated before at Caruth Memorial Rehabilitation Center and many had had some kind of contact with the Division of Vocational Rehabilitation. This group consisted of five males and one female, ranging in age from nineteen to twenty-nine.

Description of Instrument

To measure a change in self-concept level the Gough Adjective Check List was used. The Adjective Check List has a history as early as 1930, with Hartshorne and May. This early Adjective Check List contained eighty pairs of antonyms which were related to four types of conduct. In 1936 Allport and Odbert devised an Adjective Check List containing 17,953 trait names. Cattel took Allport's and Odbert's all too long list and consolidated it. He shortened their list to 160 of the original terms. To this 160-word list Cattel added eleven of his own words. Through factor analysis this list resulted in Cattel's twelve primary source traits of personality. Then in 1945 Bordin, Hathaway, and Meehl also worked with the Adjective Check List. In 1949 an effort was made to assemble words for the Adjective Check List by Gough. Gough selected from Cattel's 101-word list those words which he thought to be essential for describing personality. Gough then added words of his own to this list. His first list totalled 279 words in 1950, but because he thought some words were left out,
this list was increased to 289. In 1952 Gough increased the list to 300 words. Alfred B. Heilbrun, Jr., developed twenty-four scales to be used on the Adjective Check List.

The Gough Adjective Check List consists of 300 descriptive terms. The test is very easy to administer. The individual is to put an "X" in each box next to each word he feels is descriptive of himself. There is no limit on the number of words to be checked. There are two classes of analysis: empirical and rational. The rational approach, which was used in this study, is the use of "the check list where indices or clusters are defined in an a priori or theoretical manner" (4, p. 4). In the empirical approach, "clusters of adjectives are defined correlationally, that is by observing words that covary with some particular criterion or non-test referent, or that intercorrelate with each other" (4, p. 4).

Gough suggests three advantages to the Adjective Check List (3, p. 347): 1) A wide scope of behavior can be evaluated; 2) the use of familiar words provides a meaningful task for the rater; and 3) the presence or absence of the checking response assures analytic ease. He describes some of the disadvantages as being that the Adjective Check List provides information which is conceptually circumscribed and also that it offers a limited basis for behavior prediction or theory construction.

Another disadvantage to the Gough Adjective Check List found by Heilbrun is that there is a high rho correlation between frequency of adjective endorsement in the adjective
need-clusters which are judged to characterize certain needs and personal desirability ratings of these needs (6). This is a problem of dissimulation in the Adjective Check List when it is administered as a self-descriptive test.

Heilbrun (6) found that personal desirability of needs is highly correlated with Adjective Check List performance under defensiveness. Using college students as subjects he found that they related highly to personal and social desirability factors. It is not felt that the subjects in this study were put in a defense-arousing situation during test taking.

Ruch (11) does not think that in vocational guidance there would be any serious attempts to influence one's own scores when using the self-inventory tests. He sees the subject as submitting his own will to vocational guidance and as having little to gain by attempting to influence his own scores. Each subject, when he was given the Adjective Check List in this study, was told that the only reason for being given the test was for use in a thesis, and that there was no interest in his personal scores. The interest was in the group scores. Each subject also had a choice as to whether to participate in the study or not. Therefore, each felt that he would not receive any negative action resulting from his test scores.

Sarbin and Rosenberg (13) used the Gough Adjective Check List to measure the difference in self-conceptions between a group of diagnosed neurotic students and a group of normal students. They state that "a theoretical position argues for
the inclusion of qualities in studying personality and qualities are conceptualized by adjectives" (13, p. 81). In other words, Sarbin and Rosenberg (13) thought descriptive adjectives necessary in the study of personality. In this study (13) sixty-six per cent of the subjects in a group checked more than seventy per cent of the same words. Merrill and Heathers (10) also used the Adjective Check List as a measure of self-concept.

Berg's hypothesis, "An individual when taking almost any type of nonachievement test makes many responses similar to responses made by others, but also makes responses unlike those in the general population and more like responses made by members of the same special subpopulation to which a particular individual belongs," was supported by a study by Griggs and Thorpe (5, p. 92), using the Gough Adjective Check List. Therefore, it would be assumed that each subject in the administration of the Gough Adjective Check List was to a certain extent individualistic in his responses.

The advantage (4, p. 19) of using an independent Adjective Check List criterion as used in this study was found to be that the self-discrimination measures, as produced by the subject, could be checked for accuracy against the independent measure. This of course helped in the interpretation of the subject's scale scores. This advantage has been found in studies conducted by Gough, McKee, and Yandell, and by Gough (4).

The Gough Adjective Check List has also frequently been used where an observer checks those adjectives which he feels
describe the subject. The observer has generally been an individual who has been trained in observation and who has been in contact with the subject. An interesting analysis (4, p. 17) is possible when there are two reports, one by an observer and one also by the subject himself.

Although subjects completed the whole test, only ten scales were used. These ten scales were selected because they seemed the most meaningful in relation to self-concept. The ten scales used were the following: 1) The self-confidence scale, corresponding to the poise and self-assurance cluster of scales on the California Personality Inventory. 2) The defensiveness scale measures the test taking set. 3) The number of favorable adjectives checked measure the number of favorable adjectives which have been checked. 4) The number of unfavorable adjectives checked determines the number of unfavorable adjectives which have been checked. 5) The personal adjustment scale measures a positive attitude toward life. 6) The affiliation scale corresponds to the seeking and sustaining of numerous personal friendships. 7) The autonomy scale measures the ability to act independently of others or of social values and expectations. 8) The abasement scale corresponds to the expressing of feelings of inferiority through self-criticism, guilt, or social impotence. 9) The achievement scale corresponds to the striving to be outstanding in pursuits of socially recognized significance, and 10) the deference scale measures the seeking
and sustaining of subordinate roles in relationships with others (4, pp. 5-9). This inventory was used as a self-descriptive inventory and as a rating by others in order to have a criterion to check against for accuracy.

Procedure

The experimental group was administered the Gough Adjective Check List. The length of previous time spent in the vocational training situation was not controlled, so long as the subject had at least three months of training left. In three months' time the inventory was readministered. The teacher of each subject also rated him at this time on the Gough Adjective Check List.

The subjects composing control group I were readministered the inventory in a three-months' time span. Since some subjects were present at the Center for only one month, the inventory was readministered to them at the end of this one-month time span. Each subject that completed this phase was then rated on the Gough Adjective Check List by a staff member, who had had enough contact with the subject to warrant his rating the subject. All of these raters were on the medical staff.

The employed subjects making up control group II were re-administered the inventory after a three-month time span. The first administration had no control set for length of time already spent in the work situation. During the second administration each subject who had completed this last phase
was rated on the **Adjective Check List** by his immediate supervisor.

It was explained to each subject during the first administration of the **Adjective Check List** that the information was needed for a thesis. He was also told that there was no interest in his personal scores, but only in the group's scores. Assurance was given that his performance on this inventory would not be shown to anyone and would in no way influence his present situation. The decision was left to each subject as to whether to participate or not in the study.

**Statistical Procedure**

Merrill and Heathers (10) found the median percentile of agreement to be 84.25 in a test-retest using the Gough **Adjective Check List**. They used a two-week interval between test administration. Gough (3) found that the reliability of the **Adjective Check List** seems to run slightly lower than that of other tests. Gough (4, p. 12) suggested that the reliability of the **Adjective Check List** may be a meaningful psychological variable. Gough (4, p. 12) has found that the reliability of the **Adjective Check List** often varies. It seems that the subjects tend to employ different discriminatory elements in arriving at similar descriptive outcomes (5). La Forge and Suezek (9) developed the Interpersonal Check List, which has a retest reliability of .73. Jacobs, Copek, and Meehan (8) found that test-retest reliability of the Gough **Adjective Check List**
for some subjects is high. In another study by Crowne, Stephens, and Kelly (2), in which they were evaluating the validity of self-acceptance tests, the Adjective Check List demonstrated the highest correlation to adjustment and self-acceptance of all the tests. Each of the tests was subjected to two validations: 1) The tests were subjected to an approximation of correlational validity model by Campbell and Fiske, and 2) the tests were put through an investigation of construct validity. Although this correlation was not as high as would be desirable, the Adjective Check List was higher in approximation of correlational validity and construct validity than the other tests used.

The Adjective Check List has no correlation with intellectual ability. Some of the intercorrelations are different for men and women. Heilbrun (6) found that the rank order correlation between the relative need levels as evaluated by the need scales on the Adjective Check List and the Personal Preference Schedule was .60, which was significant at the .05 level.

Cronback (1), in describing response sets, describes one as being inclusiveness. In inclusiveness the subject is allowed to give as many answers as he desires. This would seem to be directly related to the Adjective Check List, for the subject is allowed to check as many adjectives as he feels are descriptive of himself. Cronback has found that response sets tend to affect reliability and validity. Because the response set is consistent, reliability may be increased, or it may be decreased. As far as affecting validity, response sets
appear to decrease validity since response sets permit subjects with the same attitude to receive different scores.

Although the author (4, p. 13) of the Adjective Check List realized the dangers of response sets, he decided to keep the openness of the test. By openness, the author meant permitting the subjects to check as many or as few adjectives as they wished. Gough then attempted to control any disturbing influences of response set by standardizing techniques.

A t-test on residualized scores was performed between the experimental group and control group II, using the scores from test-retest to determine if there was a significant difference in self-concept level between the two groups. This was not performed on control group I because of the small number of subjects in it in relation to the other two groups. A t-test was used since the main interest was in change over a period of three months. A t-test on score differences was used in order to take out any effects due to error or other factors than the experimental condition.

Also an analysis was performed between the second test the subject took and the observer's scores for this subject on the Adjective Check List. By using this self-insight ratio (4, p. 17), it was possible to arrive at a disagreement and agreement comparison between the two lists. The higher each score on the ratio, the greater the agreement between the subject's description and the observer's description.
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CHAPTER III

RESULTS

In the first chapter it was hypothesized that the experimental group would significantly improve over the control group in self-concept level. To measure this, ten scales, from the Gough Adjective Check List previously described, were used. A t-test, which can be seen in Table I, was performed on the test-retest difference on these ten scales, between only the experimental group and the second control group. Since there were only two subjects in the first control group it was not felt that the second control group was large enough to yield reliable data. The only significant difference found between the experimental group and the second control group was in the

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fifth variable, or Personal Adjustment. This was significant at the .02 level in the direction predicted. All but the scale of autonomy were in the predicted direction. The small number of subjects proved to be a big handicap in obtaining significant results.

A mean score on both the pre- and post-test was found on the number of total adjectives checked and on the defensiveness scales. The mean number of adjectives checked on the pre-test for the second control group was 36.57, with the experimental group having a mean of 126.62. On the post-test the second control group had a mean number of 35.57 adjectives checked, while the experimental group had a mean number of 137.50. It was noted that the experimental group checked more adjectives than did the second control group on both pre-test and post-test. The only reason that the author of this study could postulate was possibly that the experimental group had more surgency and less defensiveness in checking adjectives.

Gough and Heilbrun (11) state that there is a wide difference in the total number of adjectives checked. They found a sample of 1364 men checked a total number of adjectives of from 13 to 298, with a mean of 99.05 and a standard deviation of 38.35. On a sample of 642 women the total number of adjectives checked ranged from 21 to 225, with a mean of 91.18 and standard deviation of 30.86.

The males in the experimental group, in the present study, checked a total number of 129.20 adjectives on the pre-test and
130 on the post-test, while the women in the same group checked a total number of 122.33 adjectives on the first test and 149.66 on the second test. The men in the second control group checked a total of 85.66 adjectives on the pre-test and 85.16 adjectives on the post-test. The one female in control group II checked a total of ninety-two on the pre-test and eighty-eight on the post-test.

With the large standard deviation of 38.35, not much can actually be noted. Subjects differ widely in the number of adjectives checked, as can be seen by the size of the standard deviation. All but the post-test women in the experimental group fell within one standard deviation of the total number of adjectives checked. The females in the experimental group on the post-test were almost two standard deviations away from the mean.

On the defensiveness scale the second control group had a mean of fifty-two adjectives on the pre-test, while the experimental group had a score of 51.62. The post-test in the control group resulted in a mean score of 48.57 under this scale, with the experimental group attaining a mean score of 51.

The defensiveness scale measures a test-taking response attitude on a bipolar dimension which is interpretable at either extreme. Scores which fall out of the range of thirty to seventy are considered to be deviant, and an interpretation of dissimulation is considered. Most scores should fall close to fifty. All scores on both groups fell within a small variation of this.
A self-insight ratio was computed for each subject between his own rating and that of an observer. The results can be seen as shown in Table II. The higher each self-insight ratio score is the greater is the agreement between the subject and observer scale scores. A rank order correlation was also performed on the experimental group and the second control group. Control group two had a rank order correlation of .7087, which is fairly representative. A rank order correlation of .2873 resulted in the experimental group. A reason for the low correlation in the experimental group was that the observer for this group was very restrictive in checking adjectives. This definitely biased the correlation and contributed to the low correlation for the experimental group. Although this was in general true for all groups, it was much more prevalent in the experimental group.

### TABLE II

**SELF-INSIGHT RATIO**

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Significant improvement in self-concept level was found only in the Personal Adjustment scale for the experimental group. The other nine scales were not of significant difference, although all but one were in the predicted direction. The Personal Adjustment scale measures the degree of a positive attitude toward life more than a mere absence of problems. This scale actually measures optimism, cheerfulness, an interest in others, and a readiness to adapt. This would seem to indicate that the training situation did have some therapeutic results. Also, some of the clusters of adjectives on the Personal Adjustment scale were used in the other scales. Perhaps it took this composite of all the adjectives as used in the Personal Adjustment scale in order to measure a significant difference in self-concept level. Also, if there had been a larger number of subjects such a large amount of difference in order to obtain significant difference would not have been necessary.

Although the nine other scales were not improved at a significant level, all but one scale were in the predicted direction. Again, if the number of subjects had been larger a significant difference might have been obtained. It was expected that three of the ten scales should have lowered, which
they were, with a rise in self-concept; or that with a rise in self-concept level the scales would lower. These scales were 1) number of unfavorable adjectives checked, 2) abasement, and 3) deference. There was a fourth negative result which was not expected, and this was the Autonomy scale. While the mean difference for control group two did not lower for this scale, it did lower in the experimental group. The negative results found on the Autonomy scale might be attributed to the fact that some of the subjects in the experimental group were completing training soon after the administration of the second Gough Adjective Check List. This completion might have been perceived as a threat to their independence, as after completion of training job placement was expected. The fearfulness generally associated with this might have been a large contributor in the negative results in this scale.

A question raised here was the validity of using the Gough Adjective Check List to measure change in self-concept level in physically handicapped individuals. There were a few words on the Gough Adjective Check List which the subjects could have taken to be related to physical condition, such as "weak," "healthy," and "strong." Even if an improvement in self-concept level had been found, that does not necessarily mean that the way a physically handicapped subject perceived these words would have changed. A quadriplegic might consider himself to be physically weak on both pre-test and post-test and still have experienced an improvement in self-concept. This might
then have definitely been another factor restricting the significance level.

One of the most important variables in this study was the subject himself. Many things could affect his test-taking attitude. How he felt at the moment he took the test would definitely bias his resulting scores, as would his personality structure. Psychological information, mainly drawn from intelligence and personality tests, was available for all subjects at the rehabilitation center. All subjects from the rehabilitation center had at least average intelligence.

Many of the subjects in the experimental group were young, and therefore most of them had never worked. The subjects comprising this group were relatively immature. Only two of these subjects were mature adults and had been independent for some time. Both these subjects were males and had multiple sclerosis. This progressive disease seemed to contribute to the reverse results these two males experienced. Also, one male subject used denial as his main defense mechanism and always used a facade of being on top of the world. It seems as though some of this facade was breaking down in the training situation. This might have contributed to some of the negative results this particular subject revealed in his taking of the second Gough Adjective Check List. Also, one of the females in this group was expecting dismissal for disciplinary reasons during her post-test. Her fearfulness and defensiveness set up during the administration of the second Gough Adjective Check
List can probably partially account for some of the negative results on her retest. Information of this type was not available for control group two.

In general, there are many reasons for lack of support of the hypothesis in this study. There were too many variables which could not be controlled. The subjects used were very heterogeneous in all areas. Because of the low number of subjects available, it was impossible to control for age, amount of education, date of onset, type of physical disability, or amount of previous time spent in the setting.

During the administration of the Gough Adjective Check List a problem was discovered. Many of the subjects had difficulty with the words on the test. This difficulty was not limited to those with less than high school education. Although there were a few subjects who were administered the test in a face-to-face situation, it was not discovered until too late the difficulty that some subjects had experienced in word meaning. This was not found to be related to intelligence level. All subjects in the groups were of average intellectual ability. There was only one subject in all three groups who had more than high school education. It was felt that the Gough Adjective Check List was biased towards educational level. This definitely could have affected the way each subject marked his test.

Another limitation to the Gough Adjective Check List was the lack of more definitive norms. In most of the scales the
authors talked about high and low scores but did not state any definite or even approximate lines of demarcation.

Another problem met in this study, as mentioned previously, was the availability and cooperation of only a small number of subjects. A few individuals did refuse to take part in the study. Others for various reasons were dropped from serving as subjects in the study. One of the biggest reasons for dropping subjects was an insufficient length of stay. Many of the subjects in the rehabilitation center did not remain in the setting as long as expected or necessary to be used as a subject. In order for a significant difference to be detected a larger group of subjects would have been necessary. A study using such a small number of subjects has difficulty in attaining significant results. The fact that one variable was significant and that all but one of the remaining nine variables were in the predicted direction was thought to suggest some type of change.

At the beginning of this study it was felt that a group of physically handicapped medical patients serving as the first control group at the rehabilitation center would not show a rise in self-concept level in comparison to the subjects in the experimental group, but several factors were not taken into account. If a medical patient made physical progress in his own eyes during the time period he was serving as a subject in this study, he would probably have a rise in self-concept level. The body image is very important in our society, and so any progress
attained in the realm of better physical functioning would definitely be seen as a positive sign by the subject. This was a very real variable, as most medical patients spending at least three months in a rehabilitation center do make strides in physical improvement or physical functioning.

Another factor not taken into consideration concerned the second control group. The importance of work to the self has been discussed elsewhere. Therefore, until there had been a stabilizing period in an individual who had just entered the work situation, there would be expected an improvement in self-concept level. There would probably be a leveling off after the individual had been in the work situation, but this study did not attempt to control length of previous time spent in the work situation.
CHAPTER V

SUMMARY AND CONCLUSIONS

This study hypothesized that a group of handicapped subjects in the vocational training situation would significantly improve in self-concept level. Research was felt to be important in this area due to the vast amount of money being poured into vocational rehabilitation and the relatively little research done in this area of rehabilitation.

The Gough Adjective Check List was administered to physically handicapped subjects in a pre-test and post-test arrangement, with generally a three-month interval. Three groups of subjects were used. The experimental group consisted of eight subjects present in the vocational training situation in a rehabilitation center. The first control group was made up only of medical patients in the same rehabilitation center. Employed handicapped subjects in a work situation formed the second control group. Each subject was also rated by an observer, who was either a staff member or supervisor, at the time of his post-test.

A t-test was performed on the ten scales, used from the Gough Adjective Check List. Out of all ten scales only one was significantly different at the .02 level. This was in the predicted direction, and was the scale of Personal Adjustment. Although only one scale was significantly different, all but
one of the remaining nine scales were in the predicted direction. It was felt that there were some differences being picked up but that the small number of subjects was not allowing the differences to be significant.

Reasons for the lack of significance have been stated. One of the biggest was the lack of available subjects. This lack greatly handicapped the study.

A self-insight ratio was also calculated between each subject and observer to measure the ratio of agreement and disagreement. A rank order correlation of .7087 resulted in control group two and .2873 in the experimental group. One of the reasons for the low correlation in the experimental group was the reluctance on the part of one of the observers in experimental group to check adjectives.

A much better study could be performed if more of the variables which could not be controlled in this study were controlled, such as date of onset, disability, age, education. A perhaps more suitable design would be to compare a group of physically handicapped individuals in a vocational training situation to a group of "normal" individuals also in a training situation. Instead of having just one observer it would be better to have several for each subject, and also to have each observer rate the subject on a pre-test and post-test. A longer test interval might also be more appropriate. A definite necessity would be a larger number of subjects participating in each group.
The Adjective Check List

by

HARRISON G. GOUGH, Ph.D.

University of California (Berkeley)

Name .............................................. Age .......... Sex ..............

Date ........................................ Other ......................................

DIRECTIONS: This booklet contains a list of adjectives. Please read them quickly and put an \textbf{x} in the box beside each one you would consider to be self-descriptive. Do not worry about duplications, contradictions, and so forth. Work quickly and do not spend too much time on any one adjective. Try to be frank, and check those adjectives which describe you as you really are, not as you would like to be.
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