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CLIENT CHANGE IN SELF-CONCEPT, VOCATIONAL MATURITY, AND DECISION-MAKING SKILLS FOLLOWING VOCATIONAL EVALUATION

By

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ABSTRACT

CLIENT CHANGE IN SELF-CONCEPT, VOCATIONAL MATURITY, AND DECISION-MAKING SKILLS FOLLOWING VOCATIONAL EVALUATION

By

Anne Louise Chandler

The purpose of this study was to attempt to define the nature, direction, and magnitude of the impact, if any, of the vocational evaluation process on rehabilitation clients.

Bureau of Rehabilitation clients in vocational evaluation facilities and Bureau of Rehabilitation clients who had not yet undergone vocational evaluation were used as experimental and control condition subjects, respectively, in a quasi-experimental design in the study. A pre-post strategy was used in which experimental subjects were tested on the first and last days of evaluation. Control subjects were tested concurrently at district offices over a period of time identical to the length of vocational evaluation at the facility most frequently utilized by the district office at which they received services.

Client change was measured on several dimensions. Change in self-concept was measured using the Tennessee Self-Concept Scale. The Career Maturity Inventory - Attitude Scale was used to measure change in vocational maturity. Ability to state a job goal was assessed in an interview

with the client. In addition to these dimensions, a survey was developed to explore the possibility that clients gain information about vocationally related assets and liabilities as a function of vocational evaluation.

Although the research study was primarily oriented towards delineating the issue of client change, other materials were collected to allow a descriptive picture of the vocational evaluation process to be obtained. These materials included demographic data on clients and on the evaluation facilities used in the study. In addition, vocational evaluators were asked to respond to a questionnaire regarding areas of client change which they felt occurred as a function of evaluation.

The primary hypotheses investigated were that clients would show greater positive change on the Tennessee Self-Concept Scale and the Career Maturity Inventory - Attitude Scale, and would be better able to state a job goal following vocational evaluation than would clients who did not go through vocational evaluation.

Statistical analyses revealed no differences between the experimental and control groups on demographic variables. The analyses of the data failed to find statistical support for the hypotheses tested in this study. Experimental subjects did not show significantly greater change on the self-concept measure or on the vocational maturity measure or in the ability to state a job goal or in the specificity of the job goal stated than did the control subjects. In view of

the failure to reject the null hypotheses, various relationships of the data were explored through statistical analysis. Results of the analyses indicate that there is a possibility that a slight relationship may exist between change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, and (a) client age; (b) client's primary disability; (c) the consistency with which the client states a job goal from pre- to posttesting. No other substantial relationships were found between difference scores on the two standardized instruments and selected client, facility, and evaluator demographic variables.

An analysis of variance using survey data was conducted to determine if there were differences in information gain between experimental and control clients. Significant differences were found in two of the content areas of the survey; however, inspection of the cell means revealed that the direction of the differences was opposite to that hypothesized, with control clients showing greater gain than experimental clients.

Results of a questionnaire revealed that administrators of evaluation units, evaluators, and evaluator aides generally agreed that client change in evaluation occurs in the areas of "knowledge about abilities," "knowledge about interests," "ability to state a job goal," "change in self-concept," and "ability to meet the usual demands of work."

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CHAPTER I

THE PROBLEM

Introduction and Need

Each year, vocational rehabilitation counselors spend millions of dollars obtaining detailed vocational assessments of clients. A primary source of these assessments is vocational evaluation facilities. In the course of getting this information, rehabilitation clients spend anywhere from one to many weeks in such facilities, completing a variety of activities, all, at least theoretically, designed to provide an accurate picture of the individual's vocational assets and liabilities and vocational potential. The extent to which the vocational evaluation system is successful in this regard has not, as yet, been clearly documented. Nor have the costs and benefits to the clients involved in the system been documented.

Clearly, we are living in an era which demands accountability on the part of governmental and social service agencies. In addition, advocates of client rights have become more strident of late in their insistence upon both protecting clients and upon understanding the procedures to which individuals are subjected and the impact of these procedures on clients. The present study is being undertaken in an attempt to begin to clarify aspects of one subsystem of

the rehabilitation process, namely, vocational evaluation. Such clarification is necessary to aid in meeting the demands for accountability and to lend some assurance to the thesis that consumer rights are being protected.

In 1972, the Rehabilitation Services Administration (RSA) funded the Vocational Evaluation Project. The Project was sponsored by the Vocational Evaluation and Work Adjustment Association with the assistance of the National Rehabilitation Association. Its purpose was:

> . . . to attain and publish a professional consensus with respect to (a) the nature, characteristics and unique features of work evaluation as a contribution to helping disadvantaged individuals, including physically and mentally impaired persons, achieve self support; (b) the process or processes by which work evaluation services can be delivered; (c) the knowledge and skills needed to provide work evaluation services; (d) the target population that work evaluation services can be helpful to; (e) steps needed to be taken to develop standards governing provision of work evaluation services and the figuring of the development of such standards (Vocational Evaluation Project Final Report, Part I, 1975, p. 4).

The Report of the Project was published in 1975 and represented the input of a large number of practicing vocational evaluation professionals across the country. The Report enumerates four specific objectives of vocational evaluation. The first three of these deal primarily with information-gathering. The fourth objective defined is ". . . to reduce or eliminate functional disabilities of the individual. This is essentially a treatment objective and distinctly contrasts (with the other) three objectives" (p. 27). The rationale for the inclusion of this objective lies in the fact that this particular mode of assessment, vocational evaluation,

requires client participation over a considerable length of time, relative to the requirements of other types of assessment (e.g., psychological testing). Thus, the Project participants felt that, "during the course of vocational evaluation, then, it is likely that 'treatment effects' will be found, if only for the simple reason that people in new situations usually change to accommodate themselves to the situation" (p. 28).

In summary, the Report suggested ". . . two basic dimensions of utility for vocational evaluation services. . . . One dimension has to do with information gain. . . . The second dimension has to do with positive client change and the reduction of functional disability" (p. 29). It is on the second of these dimensions that this study will focus.

It is apparent from talking informally with vocational evaluators, vocational rehabilitation counselors, and clients that these groups frequently differ dramatically in their perceptions of the goals, outcomes, and processes of vocational evaluation. Sink (1969) comments lucidly on this diversity of perception and suggests that each group's perceptions are valid to some extent. The issue of what properly does and should happen to or for clients as a result of vocational evaluation is decidedly in question among practitioners and participants.

Differences in opinion also abound in the literature. Some authors take the tack that one of the goals of vocational evaluation is to effect ". . . change in vocational

self-concept" (Bregman, 1967; see also Gellman, 1968, and Vocational Evaluation Project Final Report, 1975). Other authors disagree with this idea, suggesting rather that such a goal is a therapeutic, rather than an evaluation, goal and should more properly be assigned to the function of work adjustment training (Roberts, 1969).

This disparity in the literature, combined with the disparity in perceptions of practitioners and recipients, suggests that research is sorely needed in an effort to clarify what, in reality, the outcomes of vocational evaluation for the client are. Research is also needed to provide some guidelines for "reasonable expectations" those connected with the vocational evaluation system might have.

The primary focus of this study will be the effect of vocational evaluation on client change. Despite the generally short-term involvement of the client in this process, the intensive nature of the involvement might logically be expected to have some sort of impact on the client. However, the actual nature of this impact has not yet been defined by research, although many intuitive changes have been proposed, some of which are conflicting, as noted earlier.

Clients will be assessed for change following vocational evaluation on two standardized instruments. One instrument will be used to measure change in self-concept, defined in the sense of a global personality construct. A second instrument will be used to measure change in career maturity. Career maturity appears to be a concept which may

be related to those aspects of self-concept which are concerned with vocational issues and vocational decision-making.

Within the primary focus of the study, the search for information concerning the nature, direction, and magnitude of client change will take place using an expanded data base over that used in earlier, similarly-oriented studies. In addition, in-depth analysis of data and items from the standardized instruments will be pursued to try to obtain further definition on the client change issue.

It is possible that the failure of previous research to define change in clients is the result of measurement problems. Currently, a critical problem in conducting research in the field of vocational evaluation lies in the dearth of instruments available to measure the inputs, products, and processes of the vocational evaluation system. Thus, the secondary focus of this study will involve the development and administration of a survey form as part of the initial step in instrument development. The survey will deal with vocational information gain of clients. It is not anticipated that a fully standardized instrument can be developed in the course of this study. However, it is hoped that further definition of the process and product of vocational evaluation can be accomplished and serve as the necessary groundwork to instrument development in the future.

In addition to client change assessment and instrument development, the present study will perform a descriptive function through collection of data on client and

facility demographics and the use of surveys with vocational evaluation staff members. Again, it is hoped that this descriptive function will be useful in terms of clarifying the nature of the vocational evaluation process and its outcomes. Basically, this study is not intended to provide definitive answers to the issues being raised; rather, it is exploratory in nature and is intended to provide background material suggestive of more specific questions which can be addressed in future research.

Purpose

In brief, the purpose of this study is to attempt to define the nature, direction, and magnitude of the impact, if any, of the vocational evaluation process on rehabilitation clients. A variety of standardized and survey instruments will be used for data collection. Where possible, the data will be utilized for formal hypothesis-testing to assess client change. Other data, not useful for formal hypothesis-testing, will be utilized to generate a description of the vocational evaluation process and outcomes.

Hypotheses

Stated in general terms, the hypotheses to be investigated are as follows:

1. The process of vocational evaluation affects clients' self-concept as measured by the Tennessee Self-Concept Scale.

2. The process of vocational evaluation affects

clients' career maturity, as measured by the Career Maturity Inventory-Attitude Scale.

3. Clients' decision-making skills are enhanced by vocational evaluation in that they are better able to state a job goal following evaluation.

Although other relationships of the data will be examined, the foregoing are the primary hypotheses of the study. They have been selected because they represent data which are most clearly observable or measurable, thus allowing the most straightforward and meaningful test of hypotheses.

As this study is a field study, its purpose goes beyond traditional hypothesis-testing. It will also attempt to clarify the outcomes of vocational evaluation and is intended to be descriptive of the process itself. As such, much of the data will not be amenable to tests for statistical significance, but rather, the data will serve to inform the field of the vocational evaluation process as it currently exists.

Definition of Terms

1. Client: A handicapped individual receiving vocational rehabilitation services in a rehabilitation setting.

2. Facility: An agency providing direct client services in the form of evaluation, treatment, and training.

3. Rehabilitation Process: "A planned, orderly sequence of services related to the total needs of the

handicapped individual. It is a process built around the problems of a handicapped individual and attempts to resolve these problems and thus bring about vocational adjustment. The process begins with initial referral and ends with successful placement on a job" (Allison, 1970, p. 4).

4. Vocational (Work) Evaluation: "A comprehensive process that systematically utilizes work, real or simulated, as the focal point for assessment and vocational development. Vocational (work) evaluation incorporates medical, psychological, social, vocational, educational, cultural, and economic data in the attainment of the goals of the evaluation process" (Tenth Institute on Rehabilitation Services, 1972, p. 2).

5. Work Adjustment: "A treatment/training process utilizing individual and group work, or work related activities, to assist individuals in understanding the meaning, value, and demands of work; to modify or develop functional capacities, as required, in order to assist individuals towards their optimum level of vocational development" (Tenth Institute on Rehabilitation Services, 1972, p. 4).

6. Vocational (Work) Evaluator: The individual responsible for conducting the vocational evaluation process.

General Limitations of the Study

Any study which attempts to deal with individuals in a naturalistic setting runs the risk of introducing a variety of confounding variables which will obscure the meaningfulness

of any results obtained. On the other hand, it also allows the researcher a chance to deal with a reality which can seldom be duplicated in the laboratory. Obviously the key to obtaining maximum benefit from a field study lies in understanding clearly the limitations of such a study. The present research has several limitations for which allowances must be made.

Instrumentation presents problems which may result in limited or imperfect findings. The lack of standardization of the instruments for the vocational evaluation client population is one such problem. A second problem lies in the possible lack of construct validity of the instruments with respect to measuring the type of client change which takes place in the vocational evaluation process. These problems will be discussed in greater detail in Chapter III.

The nature of the study (i.e., a field study) presents a number of threats to external and internal validity. However, the study has been designed so as to attempt to allow an understanding of the nature of these threats even though control over them cannot be perfectly arranged. Additionally, all results will be interpreted with caution. It is felt that the potential usefulness of findings from a study conducted in a natural environment outweigh the limitations imposed by such an approach.

With respect to generalizability of findings, it should be noted that the nature of the study's construction limits generalizability of findings to vocational evaluation

clients in Michigan during the period of time of the study. The Cornfield-Tukey Bridge Argument (Cornfield & Tukey, 1956) offers a method of extending the realm of clients to which the findings can be generalized. That is, by defining the characteristics of the population studied as clearly as possible, the Argument suggests that the findings can then be generalized to other groups of subjects at other points in time when such groups are very similar in terms of their characteristics to the group being studied. This then will be the approach taken in the present study.

Overview

The remainder of this work will develop further, in greater detail, the study as outlined in this initial chapter. In Chapter II, a review of the literature relevant to the field of investigation will be presented. Methodology will be discussed in Chapter III. Included in Chapter III will be discussions of sample selection and instrumentation, presentation of the design utilized, a statement of the hypotheses in testable form, and a discussion of the statistical models used for data analysis. Analysis of the data and the interpretation of the results will be presented in Chapter IV. Statements regarding the significance of results will also be given in Chapter IV. A discussion of the results, recommendations for future research and conclusions will comprise the content of Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

The possible and probable outcomes of vocational evaluation with respect to the client have been discussed at some length in the literature. Most, although by no means all, authors suggest that there is, or should be, some client impact and/or outcome.

One type of impact postulated is in the area of information gain. Baker and Lorenz (1978) suggest that vocational evaluators have a ". . . major responsibility in helping clients learn about themselves on the basis of the information obtained through the evaluation experience" (p. 28). Thomas (1978) supports this position, stating that the individual client ". . . must be aware of his/her own abilities and limitations, and capable of making realistic decisions that can be followed through with reasonable success. Both points can be evaluated and provided to the client . . . through the vocational evaluation process" (p. 77). Gwilliam (1970) surveyed vocational evaluation personnel in a facility in Utah and found one of the expected outcomes of the vocational evaluation process to be ". . . to gather and provide for the . . . client information about the client's work personality" (p. 11).

In contrast to these views is that of Reagles (1978).

He states, "the evaluator's job is to gather information; the counselor is aware of the context in which the evaluative information was requested and should be the interpreter of such information" (p. 45). Clearly, information gain on the part of the clients is, in this author's view, not a direct function of evaluation itself, but rather, an outcome subsequent to the process and initiated by the referring counselor rather than the evaluator.

Therapeutic and/or behavior change is another outcome postulated for clients following vocational evaluation. Jones (1978), for example, suggests that this is almost inevitable. He reasons that clients do not make distinctions among helping professionals and hence, do not turn their needs off and on at will, depending on the professional with whom they are dealing. He states, ". . . an effective evaluator has the potential to establish a meaningful basis for constructive change in client behavior, attitude and emotional maturity. (This) can be a meaningful and growth producing relationship" (p. 62). McAlees (1978) supports this view by suggesting that ". . . vocational evaluation has been found to be an effective approach to vocational planning with many different types of disabled individuals. There is an increasing body of research evidence to indicate that vocational evaluation differs from other clinical assessment processes in that it actually improves client functioning and that evaluators can contribute a therapeutic impact on client self-concept, motivation and committment (sic)

to the rehabilitation process itself" (p. 51). Certainly, this perspective is consistent with the professional consensus reported by the Vocational Evaluation Project Final Report (1975) which defined one of the objectives of vocational evaluation as ". . . positive client change and the reduction of functional disability" (p. 29).

Not all authors agree with this viewpoint, of course. Roberts (1969), for instance, states that client change is not a proper outcome of vocational evaluation and can more reasonably be expected to occur as a function of, for example, work adjustment training, a process which has a more therapeutic orientation than does vocational evaluation with its primarily diagnostic orientation.

Despite all that has been written and said concerning client outcomes of vocational evaluation, there has been relatively little actual research in the field to confirm or disconfirm the opinions of those in the field. Most studies have been confined to assessing possible change along a single dimension of interest to the researcher. The results of the studies in this area have been somewhat mixed and few of the changes reported have been statistically significant.

For instance, Dunn and Korn (1973) established a demonstration project in which rural youthful offenders were provided vocational evaluation services. Outcome measures with respect to client awareness indicated that only in the area, "awareness of vocational goal," did the clients attain

the expected level of success. A measure of vocational maturity revealed no change as a result of the vocational evaluation services. Self-ratings of abilities were obtained using the Abilities Self-Rating Form (Allen, 1973) and although some changes were noted, none reached statistical significance.

A study by Jacobs (1971) addressed the issue of client self-concept change following vocational evaluation using selected subscales from the Tennessee Self-Concept Scale (Fitts, 1964). Results indicated no changes that were statistically significant on any of the four subscales used.

Jacobs' study was expanded conceptually somewhat by H. Kennedy (1974) who hypothesized that the failure to obtain significant results was a function of the type of self-concept measured. She suggests that general self-concept may be only one component in a set of task-specific self-concepts. Thus, "this would suggest that a person may modify his perception of ability to perform certain tasks without such modifications being detected on a general measure of self-concept . . ." (p. 2). Hence, the Abilities Self-Rating Form (Allen, 1973) was used to measure client self-evaluation on specific task abilities. Results of the investigation indicated that, in some areas (predominantly areas involving performance, rather than cognitive, abilities) clients showed changes, at a statistically significant level, in the direction of being more congruent in their self-rating with the ratings of their evaluators.

Dineen (1975) attempted to assess change in self-concept as a function of vocational evaluation in a study using high school students identified as "reluctant learners" as subjects. The Miskimins Self-Goal-Other Discrepancy Scale (Miskimins, 1968) was used to assess change in a pre-post test design. Results of the study showed positive change on all six scales of the measure; however, statistical significance was reached on only two of the scales. The content of these two scales suggests that the positive change occurred with respect to the students "becoming more trusting and less suspicious of others" (p. 32).

Given the fact that client change following vocational evaluation seems a reasonable expectation, the lack of significant findings in the research on this subject is puzzling. A variety of explanations for this lack may be advanced.

Methodological considerations may be at issue in the studies cited. For instance, sample size in the studies tends to be very small, utilizing at maximum, 22 subjects. Significant differences are frequently difficult to find in the case of small sample sizes, unless, of course, the treatment effect is very powerful. This latter point may also be relevant; that is, given the relatively short-term nature of vocational evaluation, it may produce a treatment effect of limited power. It seems logical, then, that further research on the client change question utilize a larger sample size so as to enhance control over these methodological artifacts.

Another difficulty in the methodology of the studies cited lies in the failure to include control groups. Although it may be argued that the pre-post nature of the designs used provides a basis for comparison similar to that provided by a control group, nonetheless this remains a pre-experimental design containing a variety of threats to internal and external validity. It is possible that the many potential sources of confounding exert a subtractive effect upon the main treatment effect, thus providing an unclear and invalid picture of the effect of vocational evaluation on client change. It seems clear that control groups need to be included in future studies if further clarification is to be achieved.

Going beyond methodological considerations for the moment, there may be other possibilities which would, in part, account for the failure of past studies to show significant change in clients following vocational evaluation. In an extensive review of the literature, Shrauger (1975) finds evidence to support the notion that the effectiveness of evaluation data (in general, as opposed to specifically vocational evaluation data) is dependent upon the initial self-perceptions of the individual. Specifically, with respect to cognitive information, research in psychology (Stotland, Thorley, Thomas, Cohen, & Zander, 1957; Suinn, Osborne, & Page, 1962; Crary, 1966) suggests that client response to this information is congruent with consistency theory (Festinger, 1957). That is, evaluative feedback

which is inconsistent with initial self-perceptions is not assimiliated as readily as is feedback which is consistent with initial self-perceptions. These findings, which are relevant, as noted, to cognitive reactions, do not hold for emotional reactions to evaluative feedback. Rather, emotional reactions tend to conform to self-enhancement theory (Smith, 1968). Thus, negative expectancy subjects in a variety of studies (Feather, 1969; Millimet & Gardner, 1972; Spector, 1956) expressed greater satisfaction with positive feedback than did positive expectancy subjects.

The overall conclusions advanced by Shrauger (1975) may have relevance to the situation of clients in vocational evaluation. That is, we might expect that clients referred for evaluation may well tend to view themselves in a rather negative manner, at least with respect to vocational assets and vocational potential. If such is the case, then consistency theory would lead us to hypothesize that this population would show little positive change (on self-perception measures) since any positive, cognitive feedback they would receive as part of vocational evaluation would be inconsistent with their initial self-perceptions. In order to maintain the initial self-perception, the client must negate or deemphasize the positive input and thus should report few meaningful positive changes as a result of this experience. If this process is in fact occurring, then the lack of significant findings in the research is understandable. In addition, looking at the situation in this manner allows us

to approach data analysis in future studies in terms of looking at gain for groups of clients--e.g., those very negative in their self-perception versus those very positive in their self-perception. Consistency theory would suggest that differential change should take place based upon these group divisions.

Another possibility is that clients do indeed change following vocational evaluation but that the instrumentation to measure that change is so inadequate that the change is not noted.

Vocational evaluation provides clients with a relatively unique body of information; it is an attempt to measure and communicate information about vocational aptitudes, skills, interests, assets, and potential. Extensive review of the literature fails to reveal instruments that seem to measure this range of vocationally relevant data from the standpoint of client self-knowledge. Rather, standardized instruments (such as those used in most studies on this issue) tend to focus on more general variables, such as self-concept. It is questionable whether these variables are, or legitimately can be expected to be, affected by a process as specifically oriented as vocational evaluation. Added to this is the fact that essentially none of the available standardized instruments have used a population of vocational rehabilitation clients for standardization purposes.

There is some evidence that some of these instruments do, in actuality, discriminate between groups of

rehabilitation clients and non-rehabilitants. For example, the Tennessee Self-Concept Scale (used in the study by Jacobs, 1971) has been shown to discriminate successfully employed white male non-rehabilitants from a comparable group of unsuccessfully employed white male rehabilitants at a statistically significant level (Tiffany, Cowan, & Shontz, 1969). However, little has been done to apply such scales for discrimination among groups of rehabilitants nor have these scales demonstrated significant change in clients as a function of rehabilitative-type processes (see again Jacobs, 1971).

Other measurement tools used in research on this question present limitations similar to those of the Tennessee Self-Concept Scale although, in some cases, the limitations are even more severe. For instance, the Abilities Self-Rating Scale used in the H. Kennedy (1974) study and the Dunn and Korn (1973) study lacks standardization data of any kind. Thus, instrumentation in general represents a serious limitation to meaningful investigation of the client change issue. It is possible that it may be a critical limitation; that is, the lack of adequate measures may in fact account for the failure to find areas of significant change in clients following vocational evaluation.

Personal communication with Robinson (1977) indicates that client change does occur and can be measured. The Vocational Development Center (Manchester, New Hampshire) has been working on a measure over the last year or so which will tap the nature and extent of client change. They have

found statistically significant positive change in clients completing vocational evaluation on several of the scales developed. At this point, the measure is in a highly experimental stage and lacks standardization data. However, the results of the Center's preliminary investigations do provide evidence suggestive of the need for both further study of the client change question and for further work on instrument development along dimensions more closely related to the vocational evalution process.

Summary

Review of the literature indicates that most authors and practitioners in the field of vocational evaluation tend to agree that the vocational evaluation process has a direct impact on the client and produces some sort of positive change or gain in the client. The exact nature of the change or gain is not well defined nor is there universal agreement on its probable nature.

Research in this area is very limited and, as yet, has failed to provide much resolution of the client change issue. Few of the studies have found statistically significant change. One exception to this was a study by H. Kennedy (1974), which found statistically significant changes in client self-ratings of performance (as opposed to cognitive) abilities.

A variety of explanations can be advanced for this failure to find significant client change. Measurement

problems, problems in sample size, and other methodological artifacts may exert a subtractive effect on the measurement of positive client change. Another possible explanation lies in an application of consistency theory (Festinger, 1957) which would suggest that clients negate positive input in an effort to maintain their initially negative self-perceptions.

The present study will address itself to attempting to define more clearly the client outcomes, if any, of vocational evaluation. Whenever possible, attempts will be made to improve upon the deficiencies of prior studies.

CHAPTER III

METHODOLOGY

Selection of the Sample

Vocational evaluation facilities in Michigan were contracted with to provide clients for the experimental condition of this study. Sites contracted with had to meet three initial criteria, as follows:

1. the facility had to provide vocational evaluation services for Bureau of Rehabilitation clients;

2. vocational evaluation for Bureau of Rehabilitation clients had to be four weeks or less in duration;

3. the facility had to be located within 100 miles of Lansing, Michigan, as this was the maximum distance within which data collection was considered feasible from the standpoint of time and economic limitations.

These criteria eliminated 10 facilities. Most of these 10 were small facilities located predominantly in the northern lower peninsula or in the Upper Peninsula of Michigan. Eight were eliminated from consideration because their location was more than 100 miles from Lansing. Of these eight, five also suffered from problems of underutilization by Bureau of Rehabilitation offices; that is, clients were scheduled infrequently, generally at an average of one client every four to six weeks.

Two of the facilities contacted were eliminated from consideration because they failed to meet the criteria of offering vocational evaluation services lasting four weeks or less in duration; both offered six-week evaluations only.

Twenty-one facilities survived the screening on the three criteria, and contracts (Appendix A) were established with 20 of these. The one facility not contracted with declined to sign a contract as no Bureau of Rehabilitation clients were scheduled to start there during the entire period of data collection. The extended referral procedure of this facility precluded the possibility that this situation would change in the period of time prior to the onset of data collection.

Following the procurement of contracts with the 20 facilities, arrangements were made to pre-test Bureau of Rehabilitation clients at the facilities. Of the 20 facilities, clients were scheduled to begin in 16 on the dates planned for pretest data collection.

Potential experimental clients consisted of all Bureau of Rehabilitation clients scheduled to begin a four-week or less vocational evaluation on the dates of pretest data collection at one of the facilities with which there was a research contract. One client who had a legal guardian was excluded from the study as she was unable to sign an informed consent agreement in her own behalf. One other client, who by reason of disability, was unable to complete simple answer sheets on his own, was likewise excluded. With the

exception of these two individuals, all other potential experimental clients agreed to participate in the study.

Control clients were obtained through Bureau of Rehabilitation offices in the same geographical area as the vocational evaluation facilities being utilized. Counselors in these offices were asked to refer clients for the study who they expected would probably be referred for vocational evaluation in the future. A total of 19 Bureau of Rehabilitation offices were contacted and asked to participate in referring control group clients; of these, 14 were able to provide referrals.

Control group clients were contacted individually by either the referring Bureau of Rehabilitation counselor or by the researcher to explain the study briefly and request participation in the study. For those clients who did choose to participate, contact was made again by the counselor or researcher just prior to the posttest to request attendance for this purpose also.

Table 3.1 summarizes data concerning the number of clients and sites involved in the study. Attrition rates for each group are also given.

TABLE 3.1--Comparison of Experimental and Control Clients and Sites; Numbers Participating in Study and Attrition Rate

	Experimental Condition	Control Condition
Sites		
Number of sites agreeing to participate	20	14
Number of sites used for pre-testing	16	9
Number of sites used for post-testing	13	8
Attrition rate (Pre-post)	18.8%	11.1%
Clients		
Number of clients scheduled to participate	77	39
Number of clients pretested	54	15
Attrition rate (Scheduled-pre)	29.9%	61.5%
Number of clients posttested	34	12
Attrition rate (Pre-post)	37.0%	20.0%
Attrition rate (Scheduled-post)	55.8%	69.2%

As is evident from Table 3.1, differential mortality rates for the experimental and control conditions occurred. Additionally, mortality was differential as a function of time; that is, a higher percentage of control group clients failed to show for pretesting than did experimental group clients. However, mortality was higher for the experimental

group between pre- and posttesting than for the control group. These differences in experimental mortality were taken into consideration in the interpretation of results, which, of necessity, were more conservative than had such differences not occurred.

Characteristics of the Sample

Clients The 34 clients in the experimental group ranged in age from 18 to 53 years ($\bar{X}$ = 28.9 years). Fourteen males and 20 females comprised the group. Ninety-one percent of these clients had at least a ninth grade education. The largest subgroup of these clients (32.4%) had a primary disability of emotional illness; thirty-five percent of the total group had no secondary disability. Nearly all clients in the experimental group were referred to evaluation for one of two reasons: "to develop a tentative vocational objective" and/or "to assess the client's vocational skills, assets, and liabilities."

The four females and eight males in the control group ranged in age from 20 to 57 years ($\bar{X}$ = 29.8 years). Eighty-three percent had completed nine or more years of education. An orthopedic problem or neurological/sensory disability was the primary disability for the largest subgroup of these clients (33.3% in each category). Fifty-eight percent of this group had no secondary disability.

Vocational Evaluators Twenty-five evaluators across the 16 facilities each worked with one or more of the

experimental group clients. Sixteen of the evaluators had obtained a Bachelor of Arts or Bachelor of Science degree; the other nine had a Master of Arts or Master of Science degree. The evaluators had worked for an average of 3.23 years in vocational evaluation (range: four months to 10 years).

Vocational Evaluation Facilities Seven of the 16 facilities in the study were located in urban centers with populations ranging from 100,000 to 1.5 million. Seven were located in moderate-sized cities with populations ranging from 21,000 to 86,000. The other two facilities were located in rural areas in towns with populations of 2000 and 3700. The facilities also varied widely in terms of average number of clients served per day in vocational evaluation. The range was from two to 65 clients ($\bar{X}$ = 15.4).

The Bureau of Rehabilitation was the primary source of referrals for all facilities in the study. Other sources of referrals included the school systems, Comprehensive Employment and Training Act (CETA) programs, Community Mental Health Centers, and the Department of Services to the Blind. However, the Bureau of Rehabilitation provided more referrals, across facilities, than all other sources combined.

Procedure

Eighteen students enrolled in the master's and doctoral program in Rehabilitation Counseling at Michigan State University were recruited to collect data for the study.

Each student participated in a training session in which the general purpose of the study was explained and specific instructions for completing each phase of data collection were detailed. In addition, each person was given a set of written instructions outlining the steps to be taken in data collection (see Appendix B). These instructions also detailed the conditions under which subjects could be excluded from the study. Each individual was asked to review all data collection materials, and contact was made with each person prior to data collection to answer questions and review procedures.

In addition to the training of interviewers, sites were prepared for the data collection by either a personal visit to the facility by the researcher or by personal contact with the facility staff by the researcher. The purpose of these contacts was to acquaint the facility personnel with the demands of the data collection procedure on the facility, to review briefly the materials and procedures to be used, and to elicit the cooperation of the facility staff in the study.

Research assistants were assigned to sites for data collection based on each person's availability in terms of time and on the needs of the facility in terms of the expected number of clients to be interviewed. A ratio of one interviewer to five clients was determined to be an effective ratio for minimizing disruption of the facility's activities. Each client completing both pre- and posttesting was

assigned to a different interviewer for each occasion.

Research assistants carried out the following steps at the pretest:

1. Met contact person at site. At vocational evaluation facilities only, gave contact person the Facility Demographic Data Survey (Appendix C), Client Activity Sheets (Appendix D), and Surveys for Vocational Evaluation Staff Members (Appendix E).

2. Met individually with either (a) each Bureau of Rehabilitation client scheduled to begin a four-week or less vocational evaluation on that date (Experimental condition S), or (b) each Bureau of Rehabilitation client in the Control condition. At this time, a statement regarding the purpose of the study (Appendix F) was read to each client and an informed consent agreement (Appendix G) was obtained from each client. Each client was then interviewed using the Vocational Evaluation Participant Survey - Part II - Pre (Appendix H). For control condition clients, only question (1) on the Vocational Evaluation Participant Survey - Part II was asked.

3. After each client was interviewed individually, all participating clients were gathered together for group test administration. The tests were administered in this order: (a) Tennessee Self-Concept Scale, (b) Career Maturity Inventory - Attitude Scale, (c) Vocational Evaluation Participant Survey - Part I (Appendix I). All tests and instructions were administered orally.

4. Research assistants picked up the surveys previously left with the contact person before leaving the facility (Experimental condition site only).

For the posttest data collection, research assistants carried out the following steps:

1. Met individually with each client who had been pretested and interviewed him/her using the Vocational Evaluation Participant Survey - Part II - Post. For control group subjects, only question (1) on the Vocational Evaluation Participant Survey - Part II was asked.

2. After each client was interviewed individually, all participating clients were gathered together for group test administration. The tests were administered in this order: (a) Tennessee Self-Concept Scale, (b) Career Maturity Inventory - Attitude Scale, (c) Vocational Evaluation Participant Survey - Part I. All tests and instructions were administered orally.

3. Research assistants then completed the Client Demographic Data Survey (Appendix J) for each client who had been pretested. For control group clients, question I and III (10) were omitted.

4. Client Activity Sheets for experimental group clients were obtained from the files prior to the research assistant leaving the facility.

Posttest data were collected on the client's last or penultimate day at the facility (experimental group only). For the control group, posttest data were collected after

two or four weeks (depending on the length of vocational evaluation at the facility which was most often used by the Bureau of Rehabilitation office at which they were receiving services).

Adherence to the above structures for data collection resulted in the research assistants being present at the sites for from 40 minutes to three hours. For the most part, clients were actually involved in the study for 60-70 minutes on each occasion. However, since every attempt was made to minimize disruption of the facilities' normal activities, research assistants faced frequent delays caused by client coffee breaks, client completion of assigned tasks, and so on.

In a few instances, data were collected by phone contact with the Bureau of Rehabilitation counselor (demographic data only) where either information was not immediately available in the client's file or no posttest visit to the site was made because the clients had dropped out of evaluation.

Instrumentation

Two standardized measures were used on a pre- and posttest basis for all clients. One was the Tennessee Self-Concept Scale (Fitts, 1965); the other was the Career Maturity Inventory-Attitude Scale (Crites, 1973). Both of these instruments present more or less serious limitations with respect to standardization data and utility of results

for clinical assessment. However, as this study focused solely on pre-post change in self-ratings, the latter consideration was of minimal concern. In order to deal with some of the issues raised by the lack of standardization for the population being studied, internal consistency and test-retest reliability estimates were derived for the study sample. These estimates will be presented in detail in the discussions of the individual instruments.

Tennessee Self-Concept Scale

Scores Utilized Out of the 15 possible scores on this instrument, three were considered in this study. The Total Positive score was examined for pre-post change as it theoretically reflects the overall level of self-esteem.

Due to the nature of the population being studied, that is, persons with disabilities, the Physical Self score was examined for change. This score reflects the individual's view of his/her body and health--i.e., the physical self.

The last score that was of interest was the Self-Criticism scale. This scale is derived from the Minnesota Multiphasic Personality Inventory "L" scale and provides a measure of defensiveness. Given that part of the purpose of vocational evaluation is to impart information concerning the individual's vocational potential and vocational assets and liabilities, then the initial level of client defensiveness may have some impact on this information-giving

process. In turn, the process might be expected to have some impact on the client's level of defensiveness.

Standardization Although this instrument has been used with rehabilitation clients in previous studies (Tiffany, et al., 1969; Jacobs, 1971), a review of the available literature reveals that, in general, vocational rehabilitation clients were not represented in the original or subsequent standardization groups. Hence, to the extent that individuals with disabilities are different from other populations, the utility of this instrument with these clients is questionable.

Recently, questions have been raised about the validity of the instrument, irrespective of the population with which it is used (Lang & Vernon, 1977). In particular, factor analyses of the Scale have indicated a considerable amount of interscale redundancy, suggesting that the use of a large number of subscale scores from the instrument may result in misleading information. Rather, it is postulated that a single, global "self-esteem" dimension is being measured by most of the subscales (Lang & Vernon, 1977).

In view of these reservations, only a limited number of scales were considered in this study. The most significant scale under consideration was, of course, the Total Positive scale as it is supposedly reflective of the overall self-esteem dimension.

It is obviously beyond the scope of this study to establish the validity of the Scale with respect to a

vocational evaluation (or any other) population. However, it is possible to determine reliability estimates for the sample under study. These estimates are presented in Tables 3.2 and 3.3.

TABLE 3.2.--Internal Consistency Estimates - Tennessee Self-Concept Scale

(N = 69)

Scale	Reliability Coefficient *ALPHA =	Significance
Total Positive	.93855	.0001
Physical Self	.85286	.0001
Self Criticism	.60571	.0001

*Coefficient Alpha (Cronbach, 1951): a generalization of the Kuder-Richardson 20 formula; may be used when items are not scored dichotomously.

TABLE 3.3.--Test-Retest Reliability Estimates - Tennessee Self-Concept Scale

(N = 12*)

Scale	Reliability Coefficient r_{xx} =	Significance
Total Positive	.8522	.001
Physical Self	.6984	.006
Self Criticism	.6569	.010

*Over a two- to four-week time period

It should be noted that these are probably somewhat conservative estimates, given the relatively small sample sizes and the homogeneity of the group (in that all group members share the common characteristic of being a Bureau of Rehabilitation client).

Internal consistency estimates are not available from the test manual; however, test-retest data are available and are as follows:

TABLE 3.4.--Test-Retest Reliability Estimates from Tennessee Self-Concept Scale Manual

(N = 60)

Scale	Reliability Coefficient r_{xx} =
Total Positive	.92
Physical Self	.87
Self Criticism	.75

It should noted that these data were based on test-retest with 60 college students over a two-week period. Additionally, the data were based on subjects who self-administered the instrument. As the reading level for the Tennessee Self-Concept Scale is at the sixth grade level, administration for this study was, of necessity, oral as it was unlikely that all clients would be capable of that high a reading level.

Given the lack of comparability between the subjects upon which the test developers based reliability estimates and the subjects in the present study, the reliability estimates based on the latter group must be the ones relied upon for the purposes of this study.

As this study was intended to be exploratory in nature, redefinition of the Tennessee Self-Concept Scale scores was undertaken in order to obtain a stronger test of the hypotheses. That is, items which were poorly correlated with the scales were dropped, thus yielding more internally consistent scales, at least with respect to the sample being studied. It was felt that by doing this, the scales could be construed as being stronger measures of the particular concept which is theoretically, at least, being tapped. The items removed from each scale are indicated in Table 3.5., along with the corrected item-total correlation for the item and the revised internal consistency estimates for the scales.

TABLE 3.5.--Items Removed from Tennessee Self-Concept Scale and Revised Internal Consistency Estimates

(N = 69)

Scale	Item Numbers Removed	Corrected Item-Total Correlation
Total Positive	11	.26180
	20	.19431
	29	.12466
	28	.15014
	33	.11155
	44	.13215
	51	.14531
	55	.20620
	65	.00055
	66	.18904
	71	-.20187
	75	.20810
	77	-.04194
Revised Internal Consistency Estimate, Total P Scale=		.94639
Physical Self	17	.23105
Revised Internal Consistency Estimate, Physical Self Scale=		.85520
Self-Criticism	95	.15417
Revised Internal Consistency Estimate, Self Criticism Scale=		.62572

Although this redefinition of the scales was felt to be useful from the standpoint of the exploratory nature of the study, data analysis was done on both the adjusted and unadjusted scale scores to allow comparability with previous research studies.

Rationale for Inclusion While the Tennessee Self-Concept Scale certainly presents problems in terms of its appropriateness for the present research, there were, nonetheless, strong reasons for its inclusion. The primary reason had to do with its prior utilization in research on this issue (Jacobs, 1971). Since this prior study reported change in a positive direction on the Tennessee Self-Concept Scale following vocational evaluation (although not statistically significant change), it was felt that utilization with an expanded data base would provide greater clarification and hence, useful results.

A second reason for using the Tennessee Self-Concept Scale lies in the stated expectation on the part of vocational evaluation professionals that clients experience a positive change in self-concept following vocational evaluation (Gwilliam, 1970). Although pencil and paper reports of self-concept may not present a true picture of one's internal beliefs about oneself, nevertheless, they are one of the few readily available bits of information about these beliefs and thus must be used when possible. At this point in time, an instrument such as the Tennessee Self-Concept Scale represents one of the few means available to test out the reality of the expectations, noted earlier, of professionals in the field.

Career Maturity Inventory - Attitude Scale

The Attitude Scale of the Career Maturity Inventory is designed to measure ". . . the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice and entering the world of work" (Crites, 1973, p. 3). Five clusters of attitudes are represented: "involvement in the career choice process; orientation toward work; independence in decision making; preference for career choice factors; conceptions of the career choice process" (Crites, 1973, p. 3).

Standardization Standardization of the Career Maturity Inventory is based on a "normal," school-age population. As with the Tennessee Self-Concept Scale, the lack of comparability between the standardization sample and the study sample necessitated the generation of reliability estimates for the study sample. These estimates are presented in Table 3.6.

TABLE 3.6.--Reliability Estimates - Career Maturity Inventory -Attitude Scale

Reliability	N=	Reliability Coefficient	Significance
Internal Consistency	69	ALPHA = .81288	.0001
Test-retest*	12	r_{xx} = .7902	.001

*Over a two- to four-week time period

Again, it should be noted that these may be somewhat conservative estimates given the relatively small sample size of the group.

The comparison data for the standardization sample provide an internal consistency estimate of .74 and a test-retest estimate of .71. As mentioned earlier, this is based on a school-age population with the test-retest estimate being done on a one year basis. Additionally, the data were based on subjects who self-administered the instrument. As the Career Maturity Inventory has a reading level of sixth grade, it was necessary to orally administer it to the clients in this study as it was unlikely that all would be capable of that high a reading level. Given this difference in test administration and the lack of comparability between the present sample and the standardization sample, the reliability estimates based on the former group must be the ones relied upon for the purposes of this study.

As with the Tennessee Self-Concept Scale, redefinition of the Career Maturity Inventory - Attitude Scale was undertaken. Again, such a redefinition was felt to be useful from the standpoint of allowing a stronger test of the hypotheses. Items which were poorly correlated with the scale were dropped, thus yielding a more internally consistent scale, at least with respect to the sample being studied. The scale could then be construed as being a stronger measure of the concept which is being tapped.

The items removed from the scale are indicated in

Table 3.7, along with the corrected item-total correlation for the item and the revised internal consistency estimate for the scale.

TABLE 3.7.--Items Removed from Career Maturity Inventory - Attitude Scale and Revised Internal Consistency Estimate

Item Numbers Removed	Corrected Item-Total Correlation
2	-.16628
9	.07586
19	.11936
22	-.40269
35	-.01688
37	.10920
38	-.03627
42	-.06700
45	-.34337
46	-.19922
47	.07557
48	.10314
Revised Internal Consistency Estimate, Career Maturity Inventory - Attitude Scale=	.86161

As with the Tennessee Self-Concept Scale, it should be noted that data analysis was done using both the adjusted and unadjusted scale scores to allow comparability with previous research studies.

Rationale for Inclusion Like the Tennessee Self-Concept Scale, the problems with standardization presented by the Career Maturity Inventory are certainly of concern. However, it was felt that the instrument's potential

benefits outweighed its deficits. Specifically, the content area of the items appeared, on an intuitive basis, to be close to the vocational orientation of the evaluation process.

The content area also appeared to be related to an expected outcome (by professionals in the field) of the vocational evaluation process. This outcome has to do with ability to make decisions about vocational direction (Gwilliam, 1970). Certainly, the Career Maturity Inventory, which is designed to measure ". . . the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice . . ." (Crites, 1973, p. 3), appears to have relevance for delineating this issue. Additionally, some evidence is available which indicates that certain didactic experiences can be effective in increasing the career maturity of individuals (Goodson, 1969). However, the exact nature of effective (versus ineffective) experiences has not been clearly defined. Whether the intensive (although short-term) process of vocational evaluation would be effective in changing career maturity was, of course, a focus of this study.

Vocational Evaluation Participant Survey - Part I (Appendix I)

Survey construction. An extensive review of the literature failed to reveal standardized instruments which appeared to deal with the informational aspects of the vocational evaluation process. Given the fact that vocational evaluation, at least theoretically, attempts to impart

information concerning vocational assets and liabilities to individuals, it seemed logical to attempt to test for changes in the amount of this type of information which an individual had about him/herself before and after evaluation. As none of the instruments reviewed were specifically oriented to vocational information, a survey instrument was developed as an exploratory tool to try to define more clearly the nature and direction of client change.

Gwilliam (1970) reports several types of information gain for clients which administrators, counselors, and evaluators expect to occur. These appear to fall into three categories:

1. information about general worker traits (". . . work behaviors that will tend to inhibit or facilitate competitive employment") (p. 13);

2. information about specific work skills, aptitudes, interests, etc.

3. information about specific work environments (includes physical and social aspects of work environment as well as variables such as amount of supervision).

Within each of these categories, items for the survey were generated on a logical basis. A total of 60 items comprised the original pool. These 60 items were submitted to three persons (one, a rehabilitation counselor educator; the other two, persons with one to two years of experience as vocational evaluators) for review. These people suggested several additions and also the reworking of several

items to reflect third person orientation rather than first person (i.e., "other people think I am . . ." versus "I am . . .").

The resulting 90 items were randomized and the resulting survey used for limited piloting with eight vocational evaluation clients at a local facility. The piloting was done primarily to test the operational functioning of the survey (e.g., clarity of instructions) and to provide some indication of items which might have potential for reflecting change in the final form of the instrument. No attempt was made to gather standardization data during this extremely limited piloting.

Utilization of this survey for this purpose indicated clearly that the original 90 items constituted far too long a survey to be used in conjunction with the other test materials. Consequently, the responses of the eight pilot clients were examined to determine which items in each content area on the survey showed the most change from pre- to posttesting.

All items used in the final form of the survey for the study showed a change in response for at least 25% of the pilot clients; most showed change for a higher percentage. Table 3.8 shows the number of items in each content area on the final survey form corresponding to given percentages of pilot clients showing pre-post change.

TABLE 3.8.--Percentages of Pilot Clients Showing Change On Vocational Evaluation Participant Survey Items (Pre-Post)

Content Area	Number of Items	Percentage Pilot Clients Showing Change on Items (Pre-Post)
General Worker Traits (GWT)	2	38%
	10	50%
Specific Worker Traits (SWT)	3	38%
	9	50%
Environmental Preferences (ENV)	2	25%
	5	38%
	5	50%

In instances where two items were equal in terms of item content (but had been phrased differently), the item which had the best distribution across the three response categories on pre- and post- administrations was chosen. After selecting the highest percentage of change items and applying the criteria immediately above, 12 items had been selected for the first and second content areas and 10 items for the third area. The remaining two items for the last area were chosen by virtue of: (a) having shown change for 25% of the pilot clients on pre-post testing and (b) being of the most interest to the researcher.

Four "sleeper" items were also generated at this point to allow a check to be made on the stability of the

instrument over time. The content of these items was of no known relevance to the vocational evaluation process; hence, poor test-retest stability on these four items would be indicative of high error variance on the instrument rather than genuine change.

Tables 3.9 through 3.12 show the specific items in each content area on the final form of the survey.

TABLE 3.9.--Items on Vocational Evaluation Participant Survey in Content Area: General Worker Traits (GWT)

1.	I know how to interview for a job.
2.	I know exactly what kind of job I'd like to have.
3.	I know what kinds of job skills I have.
4.	I think I may have some trouble keeping a job.
5.	I have trouble getting to places on time.
6.	Once I learn a job, I can keep up with other workers well.
7.	Other people think I would rather not have a job.
8.	I am a very dependable worker.
9.	I sometimes have trouble getting along with other people on a job.
10.	Other people think I am a careful worker.
11.	Other people think I get along well with my bosses or supervisors.
12.	It seems like I am sick more often than most people.

TABLE 3.10.--Items on Vocational Evaluation Participant Survey in Content Area: Specific Worker Traits (SWT)

1.	I am a good reader.
2.	I am good at scientific things.
3.	I am not very good at taking care of children.
4.	I have trouble repairing things.
5.	I am clumsy when it comes to working with small things.
6.	I can learn to do complicated things well.
7.	I am good at working with tools.
8.	I am not very good at solving problems.
9.	I am good at jobs which involve cleaning things up.
10.	I am better than most people at working with my hands.
11.	I am good at helping other people solve their problems.
12.	I could do a job that required hard physical work every day.

TABLE 3.11.--Items on Vocational Evaluation Participant Survey in Content Area: Environmental Preferences (ENV)

1.	I don't mind getting messy when I work.
2.	I don't mind doing things that are boring sometimes.
3.	I like to work in a large place.
4.	I like working in an office.
5.	I am afraid of new situations.
6.	I like working with the same people every day.
7.	I like to do the same things on my job every day.
8.	I don't like to be told what to do on my job.
9.	I work better by myself than with others.
10.	I don't like to have to meet customers on a job.
11.	I have trouble working when it is noisy.
12.	I would be willing to work in hot, dusty places.

TABLE 3.12.--Items on Vocational Evaluation Participant Survey in Content Area: Sleeper Items (SLP)

1. I know how to prepare healthful lunches for myself.
2. I am good at several sports.
3. I enjoy watching TV in my spare time.
4. One of the things I like about working is getting paid.

Items were randomized before being assembled into the final form. Reading level on the Survey was determined to be between fourth and fifth grade level (Flesch Index - Fog Index; Leedy, 1957). As was done with the standardized instruments, the Survey was administered orally in view of the probable limited reading capacity of the study subjects.

Response categories. Three response categories were used. They were as follows:

"T": Individual judged the statement true of him/her.

"F": Individual judged the statement not true of him/her.

"DK": Individual was not sure if the statement was true of him/her or not.

It was felt that the "DK" category was a necessary addition given that clients entering vocational evaluation could be assumed to be lacking in information in some regards; had they not been, theoretically they would have had no need of vocational evaluation services.

Reliability estimates. Due to the nature of the response categories on the Survey, the data from each

administration could only be assumed to be nominal data. Hence, traditional methods for estimating internal consistency and stability could not be employed. However, it was felt that it would be useful to determine the average percentage of items on which no change in response occurred over time for the control subjects. This percentage was calculated for the survey as a whole and for each of the content areas of the Survey and is shown in Table 3.13.

TABLE 3.13.--Average Percentage of Items Showing No Change over Subjects (Pre-Post)

(N = 12)

Scales	Average percentage of items showing no change over subjects
Vocational Evaluation Participant Survey (all items)	64.8%
General Worker Traits (GWT)	61.8%
Specific Worker Traits (SWT)	70.8%
Environmental Preferences (ENV)	59.0%
Sleeper Items (SLP)	72.9%

On scale Environmental Preferences, omission of two items (Numbers 20 and 29) raised the average percentage to 65.8%.

Although not as informative as test-retest reliability estimates, these percentages give some indication of the stability of the instrument over time. As an additional check on the instrument stability, the percentage of subjects

giving the same response, pre- and post-, on each of the "sleeper" items was calculated. These percentages are shown in Table 3.14.

TABLE 3.14.--Stability of "Sleeper" Items over Time

(N = 46)

Item	Percentage of Subjects Giving Same Response Pre- and Post-
16	80.4%
19	89.1%
35	84.8%
36	82.6%

Content Validity Items on the Survey were reviewed by four persons, each of whom had worked for a minimum of six months in a vocational evaluation facility in an evaluator capacity. All items were judged by all reviewers as being related to the content area of the vocational evaluation process, with the exception of the four "sleeper" items.

Scoring For the purposes of data analysis, a scoring system was devised for the scales. The rationale for the scoring system derives from the original intent of the Survey, which was to tap change in information. Thus, a change in response from pre- to posttest was construed to mean that a change in the client's self-information had occurred. Because of the nature of the response categories, some changes

in response over time were considered to have required more informational input to effect the change than did other changes. Thus, a change from a response of "T" to one of "F" (or vice-versa) was viewed as the strongest change as it required the individual to completely reverse his/her self-assessment. On the other hand, a change from (or to) a definite response category ("T" or "F") to (or from) the indefinite response category ("DK") did not require a complete reversal, but only a "90 degree turn." Thus, scores for this type of change were lower than for complete reversals which, at least theoretically, had required more information gain.

In cases where there was no change in response, scores were assigned differentially, depending upon the certainty of the response category. Thus, responses of "T" to "T" (pre- to post-) and "F" to "F" (pre- to post-) were given higher scores than responses of "DK" to "DK" (pre- to post-). In the former case, it was hypothesized that the individual had either been confirmed in his/her self-assessment or, at least, had not been disconfirmed in that self-assessment. On the other hand, respondents who did not change from a "DK" response on the posttest had, theoretically, received minimal information, such that the individual was still unable to make a definite self-assessment on the characteristics.

Accordingly, scores were assigned as follows:

Pretest response	Posttest response	Score
DK	DK	0
T	T	1
F	F	1
T	DK	2
DK	T	2
F	DK	2
DK	F	2
T	F	3
F	T	3

Change scores for each scale were then calculated by simple addition.

Other Instrumentation

Vocational Evaluation Participant Survey - Part II (Appendix H). A questionnaire was developed for use with clients to assess whether they could state a job goal or not and the degree of specificity of that job goal, if any. Clients were also asked to state how certain they were that they would like the job they had chosen and how certain they were of obtaining the job.

For the purpose of hypothesis-testing, this information was scored using increasing values for increasing degrees of certainty or specificity for each item. Clients in the experimental condition were also asked at the pretest to indicate what they expected to learn in evaluation. At the posttest, other questions designed to elicit both emotional and cognitive response to the evaluation process were asked. For example, a response to the question, "How much did you like your evaluation?" was considered indicative of emotional response; a response to the question, "What did you learn

from evaluation?" was considered indicative of cognitive response.

Client Demographic Data Survey (Appendix J). The literature in rehabilitation is, in general, supportive of the notion that "successful" clients differ from "unsuccessful" clients on a number of demographic variables. The actual variables related to the "success" dimension tend to vary from study to study. For instance, Handelsman and Wurtz (1970) found outcome to be significantly related to amount of previous work experience and I.Q. H.G. Kennedy (1974) found outcome to be significantly related to whether the client was on public assistance or not, to educational level, and to whether the client was working at time of referral or not. Struthers (1971) found outcome to be related to most of the same variables Kennedy found to be significant. In addition, the presence or absence of a secondary disability was also found by Struthers to be significantly related to successful outcome.

In view of these findings, a form was devised to record demographic data on each client in the study. The data were obtained with the written permission of the client from each client's file at the facility or from the client's file at the Bureau of Rehabilitation District Office.

Facility Demographic Data Survey (Appendix C). This form was developed to record significant descriptive information on the facilities in which the experimental condition

clients took part in vocational evaluation. Information on the form was provided by an administrator at each facility. Each of these individuals was asked to provide information based upon the facility's current status so that the descriptive information would approximate as closely as possible the milieu in which the experimental condition clients found themselves at the time of the study.

Client Activities Sheet (Appendix D). Inasmuch as all facilities in the study provided different types of services to vocational evaluation clients, it was felt that it would be useful to obtain a list of activities in which each client engaged while in the facility. Items for the Client Activities Sheet were generated by reviewing program descriptions from 10 facilities and listing all activities described as being offered as part of vocational evaluation by any or all of the 10 facilities.

Survey for Vocational Evaluation Staff Members (Appendix E). Review of the literature had indicated that professionals in vocational evaluation expected clients to undergo positive change as a function of vocational evaluation (e.g., McAlees, 1978; Vocational Evaluation Project Final Report, 1975). To determine more specifically the areas in which change was expected, a list of potential areas of change was generated. Vocational evaluation staff members (evaluators, evaluator aides, and administrators of evaluation units) were asked to indicate the areas in which they felt change most often occurred and the direction of that change.

Design

A repeated measures design over subjects was used. In view of the fact that the study required the use of subjects in the natural environment, random assignment to treatment conditions was not possible and hence, the research was of a quasi-experimental nature. As noted by Campbell and Stanley (1963), carefully constructed quasi-experimental designs from which conclusions are drawn with caution are of value and should be used in preference to pre-experimental designs in cases where more efficient, true experimental designs are not deemed feasible.

The design utilized in this study is graphically illustrated in Figure 3.1.

	T_1			T_2			
	M_1	M_2	M_3	M_1	M_2	M_3	
G_1	n = 34			n = 34			N = 34
G_2	n = 12			n = 12			N = 12

Legend:

G_1: Bureau of Rehabilitation clients in vocational evaluation facilities taking part in vocational evaluation (Experimental condition)

G_2: Bureau of Rehabilitation clients in district offices; no vocational evaluation treatment (Control condition)

T_1: Pretest administration of instruments

T_2: Posttest administration of instruments

M_1: Tennessee Self-Concept Scale

M_2: Career Maturity Inventory - Attitude Scale

M_3: Vocational Evaluation Participant Survey - Parts I and II

Figure 3.1.--Design of the Study

Hypotheses

The hypotheses which were tested by the study are as follows:

Hypothesis 1: At the end of vocational evaluation, experimental condition subjects will show more positive change in self-concept, as measured by the Tennessee Self-Concept Scale (Total Positive, Physical Self, and Self Criticism subscores), than will subjects in the control condition.

Hypothesis 2: At the end of vocational evaluation, experimental condition subjects will show more positive change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, than will subjects in the control condition.

Hypothesis 3: At the end of vocational evaluation, experimental condition subjects will be able to state a job goal more often and with a greater degree of specificity than will control condition subjects.

Analysis of Data

Prior to formal hypothesis-testing, descriptive statistics were used to delineate the demographic characteristics of the clients in the study. As attrition was a problem with the client sample, chi square analyses were used to test for equivalence between the control and experimental condition subjects on the demographic characteristics.

Client interview responses, client activities, and responses of vocational evaluation staff members to questions

regarding expected areas of client change were categorized and presented with the use of descriptive statistics.

Multivariate analysis of variance for repeated measures designs was used to test the hypothesis regarding change in self-concept. The three scale scores from the Tennessee Self-Concept Scale were used as the dependent variables for this analysis. Scores on the Tennessee Self-Concept Scale are calculated in an interesting way such that the items on the Physical Self scale are also on the Total Positive scale (along with a number of other items). Thus, the intercorrelations between these two scales tend to be spuriously high. On the other hand, items on the Self Criticism scale do not appear on either the Total Positive or Physical Self scales. Because of the overlap of items on the two scales, a step-down F procedure was chosen for use should post-hoc analysis be in order. The dependent measures would be considered in the order: Self Criticism score, Physical Self score, and Total Positive score. This procedure allows the relative contribution of each of these scales to significant change to be assessed, if significant differences are found on the primary analysis.

The second hypothesis regarding change in vocational maturity was tested using one-way analysis of variance for repeated measure designs.

The third hypothesis regarding ability to state a job goal was tested using chi square analyses. This choice of statistical technique was felt to be appropriate in view of

the fact that the data grouped into discrete categories.

The alpha level for each hypothesis to be tested was set at .05. In the case of the third hypothesis concerning ability to state a job goal and the specificity of that goal, it was necessary to use two chi square analyses. Since increasing the number of analyses conducted increases the chance that one of the analyses will be statistically significant, it was necessary to control for this factor of chance by setting the alpha level for each analysis at .025 (.05 divided by two). Thus, although the alpha level for the hypothesis was .05, a probability equal to, or less than, .025 for each analysis was necessary to find statistical significance. Using alpha levels of .05 for each of the hypothesis tests resulted in an overall alpha level for the study of .15. Although this is a relatively high level, it was felt that it was reasonable in view of the exploratory, field study nature of the research and the relatively limited sample size.

One-way analysis of variance was used to test for differences between control and experimental condition subjects on the dimension of information gain, as measured by the Vocational Evaluation Participant Survey - Part I. This analysis was not performed as a formal test of an hypothesis, but rather in an attempt to further define the utility of the Survey as a measure of process outcome.

Summary

Bureau of Rehabilitation clients in vocational evaluation facilities and Bureau of Rehabilitation clients who had not yet undergone vocational evaluation were used as experimental and control condition subjects, respectively, in a quasi-experimental design to study and delineate the outcomes of the vocational evaluation process. All subjects volunteered for the study. A pre-post design was used in which experimental subjects were tested on the first and last days of vocational evaluation. Control subjects were tested concurrently at Bureau of Rehabilitation offices over a period of time identical to the length of vocational evaluation at the facility most frequently utilized by the Bureau of Rehabilitation office at which they received services.

The measures used in the study were (a) the Tennessee Self-Concept Scale, (b) the Career Maturity Inventory - Attitude Scale, and (c) the Vocational Evaluation Participant Survey - Parts I and II. In addition, demographic data concerning the clients and the vocational evaluation facilities utilized were collected. Activities engaged in while in vocational evaluation were recorded for experimental condition subjects. Lastly, vocational evaluation staff members were asked to respond to a questionnaire which asked each to indicate areas in which client change as a function of vocational evaluation was felt to occur.

The primary hypotheses investigated were that clients would show greater positive change on the Tennessee

Self-Concept Scale and the Career Maturity Inventory - Attitude Scale, and would be better able to state a job goal following vocational evaluation than would clients who did not go through vocational evaluation. Statistical analyses were used to test these hypotheses. Descriptive statistics were used to summarize the other data collected in the study.

CHAPTER IV

ANALYSIS OF RESULTS

Five major areas are addressed in the analysis of results generated by this study. The first area includes a summary of client demographic data and the analysis of these data to determine statistical equivalency of the samples. The second area is that of formal testing of the hypotheses which were explored in this study. Exploration of the functioning of the Vocational Evaluation Participant Survey - Part I through data analysis constitutes a third section. The fourth area addressed includes descriptive analyses of various survey data collected during the course of this study. The final section presents explorational studies of the data undertaken to see if any systematic trends were present.

Client Demographics

A total of 69 Bureau of Rehabilitation clients (54 experimental condition subjects and 15 control condition subjects) took part in the pretest phase of this study. Of these, 46 (34 experimental subjects and 12 control subjects) completed the posttest phase.

The 23 clients who failed to complete the study did so for a variety of reasons. In the experimental condition,

most clients failing to complete the study had dropped out of evaluation prior to the final day. A few had called in sick the last day of evaluation and one client declined to participate in the second testing. Of the three control clients failing to complete the study, one could not be contacted to schedule for posttesting, one was ill and unable to attend the posttest, and one had entered a full-time educational program and was unavailable for posttesting.

In view of the differential experimental mortality rates for the two groups, the possibility of differences on demographic characteristics between drop-outs and those who completed the study was explored. Table 4.1 presents the demographic characteristics of the sample used in this study. Chi square analyses were used to test for differences between the groups on these variables. No significant differences between the groups were found except on the characteristic of sex. Further analysis indicated no differences between the experimental and control groups completing the study on the characteristic of sex ($\chi^2_{1\ d.f.} = .01812$; $p = .8929$).

TABLE 4.1.--Demographic Characteristics of the Sample

Variable	All Clients		Experimental Clients (Pre & Post)		Experimental Clients (Pre Only)		Control Clients (Pre & Post)		Control Clients (Pre Only)		Test of Significance	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	χ^2	p
Age												
18 to 25 years	43.5	(30)	47.1	(16)	40.0	(8)	41.7	(5)	33.3	(1)	3.64	.72
26 to 35 years	31.9	(22)	32.4	(11)	35.0	(7)	33.3	(4)	--	(0)		
36 to 57 years	24.6	(17)	20.6	(7)	25.0	(5)	25.0	(5)	66.7	(2)		
Sex												
Male	50.7	(35)	41.2	(14)	70.0	(14)	33.3	(4)	100.0	(3)	8.58	.04
Female	49.3	(34)	58.8	(20)	30.0	(6)	66.7	(8)	--	(0)		
Primary Disability												
Mental Retardation	14.5	(10)	8.8	(3)	25.0	(5)	8.3	(1)	33.3	(1)	17.50	.13
Neurological/ Sensory	23.2	(16)	20.6	(7)	25.0	(5)	33.3	(4)	--	(0)		
Orthopedic	13.0	(9)	11.8	(4)	5.0	(1)	33.3	(4)	--	(0)		
Mental Illness	29.0	(20)	32.4	(11)	30.0	(6)	25.0	(3)	--	(0)		
Other Medical	20.3	(14)	26.5	(9)	15.0	(3)	--	(0)	66.7	(2)		
None	--	(0)	--	(0)	--	(0)	--	(0)	--	(0)		

TABLE 4.1.--Continued.

Variable	All Clients		Experimental Clients (Pre & Post)		Experimental Clients (Pre Only)		Control Clients (Pre & Post)		Control Clients (Pre Only)		Test of Significance	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	χ^2	p
Secondary Disability												
Mental Retardation	15.9	(11)	20.6	(7)	10.0	(2)	16.7	(2)	--	(0)	12.02	.68
Neurological/ Sensory	11.6	(8)	11.8	(4)	20.0	(4)	--	(0)	--	(0)		
Orthopedic	2.0	(2)	2.9	(1)	5.0	(1)	--	(0)	--	(0)		
Mental Illness	10.1	(7)	11.8	(4)	5.0	(1)	16.7	(2)	--	(0)		
Other Medical	17.4	(12)	17.6	(6)	25.0	(5)	8.3	(1)	--	(0)		
None	42.0	(29)	35.3	(12)	35.0	(7)	58.3	(7)	100.0	(3)		
Education												
0 to 8 years	10.1	(7)	8.8	(2)	5.0	(1)	16.7	(2)	33.3	(1)	3.73	.71
9 to 11 years	36.2	(25)	32.4	(11)	40.0	(8)	41.7	(5)	33.3	(1)		
12 or more years	53.6	(37)	58.8	(20)	55.0	(11)	41.7	(5)	33.3	(1)		
Marital Status												
Single (never married)	58.0	(40)	64.7	(22)	65.0	(13)	33.3	(4)	33.3	(1)	10.51	.31
Married	18.8	(13)	14.7	(5)	10.0	(2)	33.3	(4)	66.7	(2)		
Divorced	17.4	(12)	17.6	(6)	15.0	(3)	25.0	(3)	--	(0)		
Widowed	--	(0)	--	(0)	--	(0)	--	(0)	--	(0)		
Separated	5.8	(4)	2.9	(1)	10.0	(2)	8.3	(1)	--	(0)		

TABLE 4.1.--Continued.

Variable	All Clients		Experimental Clients (Pre & Post)		Experimental Clients (Pre Only)		Control Clients (Pre & Post)		Control Clients (Pre Only)		Test of Significance	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	χ^2	p
Number of Sources of Financial Support												
One	84.1	(58)	85.3	(29)	80.0	(16)	83.3	(10)	100.0	(3)	1.10	.98
Two	13.0	(9)	11.8	(4)	15.0	(3)	16.7	(2)	--	(0)		
Three	2.9	(2)	2.9	(1)	5.0	(1)	--	(0)	--	(0)		
Sources of Financial Support*												
Self	14.5	(10)	8.8	(3)	10.0	(2)	41.7	(5)	--	(0)	10.71	.99
Family	33.3	(23)	29.4	(10)	40.0	(8)	33.3	(4)	33.3	(1)		
Public Assistance	26.1	(18)	23.5	(8)	35.0	(7)	16.7	(2)	33.3	(1)		
Workers Compensation	--	(0)	--	(0)	00	(0)	--	(0)	--	(0)		
Social Security Disability Benefits	23.2	(16)	26.5	(9)	25.0	(5)	8.3	(1)	33.3	(1)		
Supplemental Security Income	13.0	(9)	17.6	(6)	10.0	(2)	8.3	(1)	--	(0)		
Unemployment	--	(0)	--	(0)	--	(0)	--	(0)	--	(0)		
Other	8.7	(6)	11.8	(4)	5.0	(1)	8.3	(1)	--	(0)		

*Percentages total 100% in each category as some clients have more than one source of financial support.

TABLE 4.1.--Continued.

Variable	All Clients		Experimental Clients (Pre & Post)		Experimental Clients (Pre Only)		Control Clients (Pre & Post)		Control Clients (Pre Only)		Test of Significance	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	χ^2	p
Employment Status @ Application												
Student	4.3	(3)	5.9	(2)	5.0	(1)	--	(0)	--	(0)	3.60	.72
Employed	7.2	(5)	2.9	(1)	10.0	(2)	16.7	(2)	--	(0)		
Unemployed	88.4	(61)	44.9	(31)	85.0	(17)	83.3	(10)	100.0	(3)		
Number of Children												
None	66.7	(46)	70.6	(24)	70.0	(14)	50.0	(5)	66.7	(2)	2.67	.85
One to three	26.1	(18)	23.5	(8)	20.0	(4)	41.7	(5)	33.3	(1)		
Four or more	7.2	(5)	5.9	(2)	10.0	(2)	8.3	(1)	--	(0)		
Residence												
Independently	52.2	(36)	47.1	(16)	45.0	(9)	75.0	(9)	66.7	(2)	4.45	.62
With parents	40.6	(28)	44.1	(15)	45.0	(9)	25.0	(3)	33.3	(1)		
Supervised setting	7.2	(5)	8.8	(3)	10.0	(2)	--	(0)	--	(0)		

Test of Hypotheses

Hypothesis 1

Null hypothesis: No difference will be found in self-concept, as measured by the Tennessee Self-Concept Scale (Total Positive, Physical Self and Self Criticism subscores), between experimental and control condition subjects.

Alternate hypothesis: Experimental condition subjects will show more positive change in self-concept, as measured by the Tennessee Self-Concept Scale (Total Positive, Physical Self and Self Criticism subscores), than will subjects in the control condition.

Multivariate analysis of variance for repeated measures design was used to test this hypothesis. Table 4.2 presents the calculated F values, their probabilities of occurrence, and the degrees of freedom used for the calculations. A multivariate technique was chosen to take advantage of the intercorrelations of the Tennessee Self-Concept Scale subscales, hence allowing a more powerful test of the hypothesis. However, as Table 4.2 indicates, the null hypothesis of no difference between the two groups cannot be rejected.

TABLE 4.2.--Summary of Multivariate Analysis of Variance for Test of Hypothesis 1 (Unadjusted Scores)

Source of Variation	Finn's degrees of freedom due to multivariance	F-ratio	P
Group	3,42	1.3065	.2850
Time	3,42	1.0899	.3640
Group X Time	3,42	1.9225	.1407

The analysis reported in Table 4.2 used unadjusted scale scores; that is, all items on the scales as defined by the test developer were scored. For the purpose of exploration, the analysis was re-run, using adjusted scale scores. These were arrived at by eliminating items which correlated poorly with the scale. Thus, the resultant scales were more internally consistent and theoretically, represented a stronger measure of the concept being tapped. The F values, degrees of freedom, and probability of occurrence figures for this analysis, based on adjusted scale scores, are reported in Table 4.3.

Again, the null hypothesis of no difference between the two groups cannot be rejected.

TABLE 4.3.--Summary of Multivariate Analysis of Variance for Test of Hypothesis 1 (Adjusted Scores)

Source of Variation	Finn's degrees of freedom due to multivariance	F-ratio	p
Group	3,42	1.1089	.3563
Time	3,42	1.1677	.3335
Group X Time	3,42	.5511	.6502

Hypothesis 2

Null hypothesis: No difference will be found in vocational maturity, as measured by the Career Maturity Inventory Attitude Scale, between experimental and control condition subjects.

Alternate hypothesis: Experimental condition subjects will show more positive change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, than will subjects in the control condition.

Analysis of variance for repeated measures design was used to test this hypothesis. Table 4.4 presents the calculated F values, their probabilities of occurrence, and the degrees of freedom used for the calculations.

TABLE 4.4--Summary of Multivariate Analysis of Variance for Test of Hypothesis 2 (Unadjusted Scores)

Source of Variation	Finn's degrees of freedom due to multivariance	F-ratio	p
Group	1,44	2.4503	.1247
Time	1,44	15.6909	.1715
Group X Time	1,44	.0004	.9943

As Table 4.4 shows, the null hypothesis of no differences between experimental and control subjects cannot be rejected.

The analysis reported in Table 4.4 was performed on unadjusted scale scores. That is, scale scores were determined by scoring all items on the scale. As was done with the Total Positive, Physical Self and Self Criticism subscores, the analysis was re-run for exploratory purposes using adjusted scale scores. These scores were arrived at by deleting items which correlated poorly with the scale and

scoring only the remaining items. The F values, degrees of freedom, and probabilities of occurrence for this analysis are reported in Table 4.5.

TABLE 4.5.--Summary of Multivariate Analysis of Variance for Test of Hypothesis 2 (Adjusted Scores)

Source of Variation	Finn's degrees of freedom due to multivariance	F-ratio	p
Group	1,44	2.0942	.1550
Time	1,44	11.1271	.2218
Group X Time	1,44	.0240	.9544

Again, as indicated by the values reported in Table 4.5, the null hypothesis of no difference between the experimental and control clients cannot be rejected.

Hypothesis 3

Null hypothesis: No difference will be found in the frequency with which a job goal is stated or the specificity with which a job goal is stated between experimental and control condition subjects.

Alternate hypothesis: Experimental condition subjects will be able to state a job goal more often and with a greater degree of specificity than will control condition subjects.

Prior to testing the hypothesis, pretest responses on the questions of interest were analyzed using chi square

analyses. Table 4.6 presents the results of this analysis.

TABLE 4.6.--Summary of Responses and Results of Chi Square Analyses to Test Equivalency of Samples on Questions Regarding Job Goal (Pre-test)

Variable	Experimental Condition Clients %	(N)	Control Condition Clients %	(N)	χ^2	p
Ability to State Job Goal						
Yes	85.3	(29)	50.0	(6)	4.28754	.0384
No	14.7	(5)	50.0	(6)		
	* * * * * * * * * * *					
Specificity of Job Goal						
Job Goal Not Stated	14.7	(5)	50.0	(6)	7.91896	.0191
General Job Goal Stated	26.5	(9)	--	(0)		
Specific Job Goal Stated	58.8	(20)	50.0	(6)		

As Table 4.6. indicates, although the differences between the groups in ability to state a job goal are not statistically significant (at $\alpha \leq .025$), the groups do show statistically significant differences in terms of the specificity of the job goal stated on the pretest.

Two chi square analyses were also used to test the hypothesis using posttest data. Table 4.7 summarizes the distribution of responses and presents the chi square values and probabilities of occurrence.

TABLE 4.7.--Summary of Response Categories and Results of Chi Square Analyses to Test Hypothesis 3

Variable	Experimental Condition Clients %	(N)	Control Condition Clients %	(N)	X^2	p
Ability to State A Job Goal						
Yes	79.4	(27)	41.7	(5)	4.31879	.0377
No	20.6	(7)	58.3	(7)		
	* * * * * * * * * * *					
Specificity of Job Goal						
Job Goal Not Stated	20.6	(7)	58.3	(7)	6.11283	.0471
General Job Goal Stated	23.5	(8)	16.7	(2)		
Specific Job Goal Stated	55.9	(19)	25.0	(3)		

As Table 4.7 indicates, the null hypothesis of no differences between the experimental and control conditions cannot be rejected at the posttest.

Analysis of Vocational Evaluation Participant Survey - Part I Results

For the purpose of exploration, one-way analyses of variance were employed to determine if there were differences between the two groups in performance on the Vocational Evaluation Participant Survey subscales. Table 4.8 summarizes these analyses.

TABLE 4.8.--Summary of Analysis of Variance of Subscale Scores on Vocational Evaluation Participant Survey - Part I

Subscale	Cell Means Experimental	Control	df	F	p
General Worker Traits (GWT)	44.2059	53.0000	1,44	6.5533	.0140
Specific Worker Traits (SWT)	45.8235	52.6667	1,44	3.8348	.0566
Environmental Preferences (ENV)	46.3235	49.1667	1,44	.8419	.3539
Sleeper Items (SLP)	11.1176	14.2500	1,44	5.7170	.0212

As Table 4.8 indicates, there are apparently significant differences (at $\alpha \leq .05$) between the two groups on the subscales General Worker Traits and Sleeper Items. However, contrary to expectations, the cell means indicated that more information gain occurred for the control condition clients than for the experimental condition clients. No statistically significant differences between the two groups were found on the other two subscales (Specific Worker Traits and Environmental Preferences). However, visual inspection of the cell means again suggests that there is more information gain for control clients than for experimental condition clients on these two subscales as well.

Descriptive Data

Survey for Vocational Evaluation Staff Members. The expectations for client change held by vocational evaluation

staff members were surveyed and the responses collated. The results of this survey are presented in Table 4.9.

A Kendall coefficient of concordance, W, was calculated to determine if the three groups differed in their rankings of areas of expected client change. In this instance, W = .13 with a value of .21 or greater necessary to reject an hypothesis of no differences (at α = .05) between the groups. Thus, the three groups apparently did not differ statistically in their ratings of expected areas of client change. The five areas most frequently cited, overall, as being the ones in which client change occurs are listed in Table 4.10.

TABLE 4.9.--Response to Questionnaire Designed to Survey the Areas of Client Change Expected by Vocational Evaluation Staff Members

Area of Change	Administrator (N = 12)		Evaluator (N = 30)		Evaluator Aide (N = 18)	
	Positive % (N)	Negative % (N)	Positive % (N)	Negative % (N)	Positive % (N)	Negative % (N)
a. ability to state a job goal	50.0 (6)	-- (0)	60.0 (18)	-- (0)	38.9 (7)	-- (0)
b. knowledge about intellectual capacities	8.3 (1)	-- (0)	16.7 (5)	-- (0)	22.2 (4)	-- (0)
c. ability to relate to supervisors	25.0 (3)	8.3 (1)	6.7 (2)	3.3 (1)	50.0 (9)	-- (0)
d. ability to relate to co-workers	8.3 (1)	-- (0)	6.7 (2)	3.3 (1)	33.3 (6)	-- (0)
e. change in self-concept	41.7 (5)	8.3 (1)	50.0 (15)	-- (0)	38.9 (7)	5.6 (1)
f. ability to meet standards of production	8.3 (1)	-- (0)	6.7 (2)	3.3 (1)	16.7 (3)	5.6 (1)
g. decision-making capacity	16.7 (2)	-- (0)	30.0 (0)	-- (0)	16.7 (3)	-- (0)
h. knowledge about job-seeking skills	8.3 (1)	-- (0)	20.0 (6)	-- (0)	11.1 (2)	5.6 (1)
i. knowledge about job market	33.3 (4)	-- (0)	26.7 (8)	3.3 (1)	11.1 (2)	-- (0)
j. knowledge about interests	58.3 (7)	-- (0)	70.0 (21)	3.3 (1)	50.0 (9)	-- (0)
k. knowledge about abilities	83.3 (10)	-- (0)	86.7 (26)	3.3 (1)	72.2 (13)	5.6 (1)
l. ability to meet usual demands of work (being on time, etc.)	25.3 (3)	-- (0)	43.3 (13)	-- (0)	33.3 (6)	5.6 (1)
m. knowlege about physical capacities	41.7 (5)	-- (0)	26.7 (8)	3.3 (1)	44.4 (8)	-- (0)
n. motivation to work	33.3 (4)	-- (0)	16.7 (5)	3.3 (1)	22.2 (4)	11.1 (2)

TABLE 4.10.--Areas of Expected Client Change Most Often Cited by Vocational Evaluation Staff Members

Area	Percentage of Respondents Expecting Change in Area
Knowledge about abilities	85.0 (N = 51)
Knowledge about interests	63.3 (N = 38)
Ability to state a job goal	51.6 (N = 31)
Change in self-concept	48.3 (N = 29)
Ability to meet usual demands of work (being on time, etc.)	38.3 (N = 23)

Client Activities Checklists indicating activities in which each client engaged while in vocational evaluation were obtained for each of the 54 subjects in the experimental condition. Entries across all 54 clients were collated and summarized. Table 4.11 presents the list of activities and percentages and numbers of clients participating in each activity across the sample.

TABLE 4.11. Activities Participated in by Clients during Vocational Evaluation and Percentage of Clients Participating in each Activity

Activity	% Clients	(N)
Intake interview	100.0	(54)
Orientation	96.3	(52)
Work Samples	92.6	(50)
Client staffing	66.7	(36)
Individual Counseling	59.3	(32)
(Average number of hours per client during vocational evaluation: 3.6; Range .5 - 12)		
Situational assessment	46.3	(25)
Psychological testing	31.5	(17)
Group counseling	11.1	(6)
(Average number of hours per client during vocational evaluation: .9; Range .5 - 2)		
On the job evaluation	7.4	(4)
Vocational training	3.7	(2)
Work adjustment training	3.7	(2)
Job seeking skills classes or instruction	1.8	(1)
Personal adjustment training	1.8	(1)
Remedial education services	--	(0)
Social activities	--	(0)

Vocational Evaluation Participant Survey - Part II

Responses given to the interview questions of the Vocational Evaluation Participant Survey were categorized for ease in presentation. Each question is presented in Table 4.12 along with the numbers and percentages of clients responding in each category of response for that question.

TABLE 4.12.--Categorized Responses of Clients to Selected Questions on Vocational Evaluation Participant Survey - Part II

Question	Response Categories	Percentage of Clients Giving Response	(N)
1. "What do you think you may learn while you are in vocational evaluation here?"			
	"To get along with others"	22.2	(12)
	"I don't know"	20.4	(11)
	"Learn about my skills, abilities and/or interests"	18.5	(10)
	"Learn a specific work or job skill"	16.7	(9)
	"To try out different jobs"	14.8	(8)
	"To see if suited for a specific job"	7.4	(4)
	"To learn about work, in general"	5.6	(3)
	"Expect to obtain a job"	3.7	(2)
	"Learn about the job market"	1.8	(1)
	"Learn how to get a job"	1.8	(1)
	"Confidence?"	1.8	(1)
	"Something that will help me"	1.8	(1)
	"To walk better"	1.8	(1)

Total Respondents: 54; Total Responses: 64

* * * * * * * * * *

TABLE 4.12.--Continued.

Question	Response Categories	Percentage of Clients Giving Response	(N)
2. "What did you learn from evaluation?"	"About myself--assets, skills, limitations	47.1	(16)
	"About the world or work--specific jobs; demands of world of work"	23.5	(8)
	"One or more specific job skills"	20.6	(7)
	"To get along with others"	8.8	(3)
	No response	8.8	(3)
Total Respondents: 34;	Total Responses: 37		
	* * * * * * * * * *		
3. "What kinds of information did you get from vocational evaluation that were <u>most</u> <u>helpful</u> to you?"	Don't know or no response	29.4	(10)
	"Information about world of work and its demands"	23.5	(8)
	"Information about self--assets, skills, limitations"	20.6	(7)
	"A specific job skill"	11.8	(4)
	"How to get along with others"	5.9	(2)
	"Test information"	5.9	(2)
	"The instructors"	2.9	(1)

TABLE 4.12.--Continued.

Question	Response Categories	Percentage of Clients Giving Response	(N)
3. (Continued)			
Total Respondents: 34; Total Responses: 34			
	* * * * * * * * * * *		
4. "What kinds of information did you get from vocational evaluation that you thought were least helpful to you?"	"Nothing"	61.8	(21)
	"Information that was a repeat of things I already knew"	17.6	(6)
	A specific task or work sample	11.8	(4)
	"Tests for the vocational evaluation research study at MSU"	2.9	(1)
	"Conflicting directions from different supervisors"	2.9	(1)
	"Couldn't drink coffee during the day"	2.9	(1)
Total Respondents: 34; Total Responses: 34			
	* * * * * * * * * * *		
5. "What did you like most in vocational evaluation?"	A specific task	55.9	(19)
	"Evaluation staff and/or other clients"	32.4	(11)
	"Everything"	5.9	(2)
	"Nothing"	2.9	(1)

TABLE 4.12.--Continued.

Question	Response Categories	Percentage of Clients Giving Response	(N)
5. (Continued)	"Seeing how vocational evaluation helps other people"	2.9	(1)
Total Respondents: 34;	Total Responses: 34		
	* * * * * * * * * *		
6. "What did you like least in vocational evaluation?"	A specific task or work sample	58.8	(20)
	Some aspect of physical set-up: building, rules, etc.	14.7	(5)
	"Don't know" or "Nothing"	14.7	(5)
	"Evaluation staff"	11.8	(4)
Total Respondents: 34;	Total Responses: 34		
	* * * * * * * * * *		
7. "What other things or services do you think would help you to decide on a job?"	"Training or school"	38.2	(13)
	"Don't know"	26.5	(9)
	Placement services	11.8	(4)
	"More information or evaluation"	8.8	(3)
	"Nothing"	8.8	(3)
	Medical treatment	5.9	(2)
Total Respondents: 34;	Total Responses: 34		

In addition to these questions, clients were asked to rate the evaluation as to how much they liked it. Clients responded in the four response categories, as follows:

A lot	58.8%	(20)
Pretty much	29.4%	(10)
Not very much	11.8%	(4)
Not at all	--	(0)

In response to another question on the survey, 23 clients stated they had not changed their job goal as a result of vocational evaluation; 11 clients stated they had changed their job goal as a result of vocational evaluation. To another question, 20 clients stated they had found vocational evaluation to be pretty much like what they expected; 14 stated it was not like what they had expected.

Trends in the Data

As this study was designed to be exploratory in nature, a variety of statistical analyses were performed on the data to see if further information on the client change issue could be garnered. Although the formal test of hypotheses revealed no differences between control and experimental condition subjects on the dependent measures, visual inspection of the difference scores for the experimental group indicated that, in fact, a number of clients had changed, in both positive and negative directions, from pre- to post-test. Thus, statistical analyses were undertaken to see if there were any systematic differences related to, perhaps, a demographic variable or some other variable. Analysis of

variance, analysis of covariance, and correlational techniques were used, depending on the nature of the independent variable to be analyzed. Scores on the Tennessee Self-Concept Scale (Total Positive Subscore only) and the Career Maturity Inventory - Attitude Scale were used as the dependent measures. As using adjusted scale scores had not contributed substantially in the testing of hypotheses, only unadjusted scale scores were used in the exploration of trends in the data. Where difference scores were used, these were calculated by subtracting "pre-" scores from "post-" scores.

It should be noted that full statistical validity cannot be claimed for the analyses both because of the number of analyses performed and the small sample size used. However, even with this limitation, the analyses were felt to be useful from the standpoint of exploration and their possible implications for future research.

Relationship with Demographic Variables Age, primary disability, and sex were used as independent variables for these analyses. In addition, the possibility that mentally retarded clients (primary or secondary disability) might show different amounts of change compared to other clients was examined. This was done because of the possibility that retarded clients might assimilate information less readily than other clients and hence, show less change on the dependent measures. Table 4.13 shows the results of these analyses.

TABLE 4.13.--Relationship of Client Demographic Variables to Change on Dependent Measures

Statistical Technique: Analysis of Variance (Experimental group only)				
Independent Variable	Dependent Variable	df	F	Signi-ficance
Sex	Difference scores - Tot P*	1	.047	.830
	Difference scores - CMI-AS**	1	.048	.828
Primary Disability	Difference scores - Tot P	4	.335	.852
	Difference scores - CMI-AS	4	2.074	.110
Mental Retardation Versus No Mental Retardation	Difference scores - Tot P	1	.056	.815
	Difference scores - CMI-AS	1	.293	.592

Statistical Technique: Analysis of Covariance (Experimental and Control Group)				
Independent Variable	Dependent Variable	df	F	Signi-ficance
Experimental versus Control (age as covariate)	Difference scores - Tot P	1	.735	.396
	Difference scores - CMI-AS	1	.006	.938

Statistical Technique: Correlation (Experimental group only)			
X	Y	r_{xy}	p
Age	Difference scores - Tot P	.1631	.357
	Difference scores - CMI-AS	-.2691	.124

*Total Positive Subscore from the Tennessee Self-Concept Scale
**Career Maturity Inventory - Attitude Scale

As Table 4.13 indicates, no relationships of any real substance were found between selected client demographic variables and the dependent measures. There is a possibility of a slight relationship between difference scores on the Career Maturity Inventory - Attitude Scale and age and primary disability.

Relationship with Facility- and Evaluator-Related Variables. Sites, evaluators' years of experience, hours of individual counseling received by clients during vocational evaluation, and number of days of evaluation were used as independent variables for this set of analyses. Difference scores on the two standardized measures for experimental condition clients only were used as the dependent variables. Table 4.14 presents the results of these analyses.

TABLE 4.14.--Relationship of Facility- and Evaluator-Related Variables to Change on Dependent Measures

Independent Variable	Dependent Variable	df	F	Significance
Statistical Technique: Analysis of Variance				
Facility	Difference scores - Tot P*	12	.624	.798
	Difference scores - CMI-AS**	12	.860	.596

X	Y	r_{xy}	p
Statistical Technique: Correlation			
Days of evaluation completed	Difference scores - Tot P	.2042	.247
	Difference scores - CMI-AS	.1680	.342
Number of hours of individual counseling	Difference scores - Tot P	.0217	.903
	Difference scores - CMI-AS	-.0241	.893
Evaluators' years of experience	Difference scores - Tot P	-.3143	.070
	Difference scores - CMI-AS	-.0864	.627

*Total Positive Subscore from the Tennessee Self-Concept Scale
**Career Maturity Inventory - Attitude Scale

Again, few relationships of any real substance were found between selected facility- or evaluator-related variables and the dependent measures. There is a possibility of a slight, inverse relationship between evaluators' years of experience and difference scores on the Total Positive subscale of the Tennessee Self-Concept Scale.

Relationship with Pre-test Performance. In line with evidence presented by Shrauger (1975), the possibility was explored that clients scoring high on the pretest on each of the measures would show differential change compared to clients scoring low on the pretest. "High" was defined as being at or above the mean score of the standardization sample for each instrument. "Low" was defined as being below the mean score of the standardization sample for each instrument. Table 4.15 presents the results of these analyses.

TABLE 4.15.--Relationship of Pre-test Performance to Change on Dependent Measures

Statistical Technique: Analysis of Variance (Experimental group only)

Independent Variable	Dependent Variable	df	F	Significance
"High" versus "Low" Scorers on Pre-test	Difference scores - Tot P*	1	.000	.989
	Difference scores - CMI-AS**	1	1.567	.220

*Total Positive Subscore from the Tennessee Self-Concept Scale
**Career Maturity Inventory - Attitude Scale

No relationship was found between groups based on performance on the pretest and the dependent measures.

Relationship with Job Goal Statements For this set of analyses, the possibility was explored that there might be a relationship between the specificity of the job goal stated at the pretest and the dependent measures. Also explored was the possibility that there might be a relationship between the consistency with which a given job goal was

stated pre- to post- and the dependent measures. The rationale for this exploration was that clients who were definite and consistent in their job choice might be different from other evaluation clients who were vaguer on these issues and hence, who might react differently to the vocational evaluation process. Table 4.16 presents the results of these analyses.

TABLE 4.16.--Relationship of Job Goal Statements to the Dependent Measures

Statistical Technique: Analysis of Variance (Experimental group only)

Independent Variable	Dependent Variable	df	F	Significance
Specificity of job goal (pre-)	Difference scores - Tot P*	2	1.171	.324
	Difference scores - CMI-AS**	2	1.073	.354
Consistency of job goal (pre- to post-)	Difference scores - Tot P	2	.925	.407
	Difference scores - CMI-AS	2	2.323	.115

*Total Positive Subscore from the Tennessee Self-Concept Scale
**Career Maturity Inventory - Attitude Scale

Again, little in the way of substantial relationships was found in these analyses. There is a possibility that there is a slight relationship between consistency of job goal and difference scores on the Career Maturity Inventory - Attitude Scale. Inspection of the cell means reveals that clients who are less consistent in their job goal (pre- to post-) show more positive change on the Career Maturity Inventory - Attitude Scale than do clients who are very consistent

in their job goal (pre- to post-). The latter clients, in fact, show a slight negative change on the Career Maturity Inventory - Attitude Scale.

Summary of Results

1. Significant differences were found between clients completing the study and those who dropped out in each group on only one of 11 demographic characteristics (difference occurred on characteristic of "Sex").

2. There was no difference between the experimental and control groups on the demographic characteristic of "Sex."

3. There was no difference between control and experimental clients in the amount or direction of change in self-concept, as measured by the Tennessee Self-Concept Scale, as a function of vocational evaluation.

4. There was no difference between control and experimental clients in the amount or direction of change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, as a function of vocational evaluation.

5. There was no difference between control and experimental clients in the ability to state a job goal or the specificity of that job goal, following vocational evaluation.

6. Significant differences were found between the control and experimental groups on two of the subscales of the Vocational Evaluation Participant Survey - Part I as a function of vocational evaluation. The direction of the differences were opposite to that hypothesized, with control

clients showing greater gain than experimental clients.

7. Administrators of evaluation units, evaluators, and evaluator aides generally agreed that client change in evaluation occurs in the areas of "knowledge about abilities," "knowledge about interests," "ability to state a job goal," "change in self-concept," and "ability to meet the usual demands of work."

8. A variety of analyses were run to explore trends in the data. There is a possibility that a slight relationship may exist between change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, and (a) client age, (b) client's primary disability, and (c) the consistency with which the client states a job goal from pre- to posttesting. A slight, inverse relationship may exist between evaluators' years of experience and client change on the Total Positive Subscale of the Tennessee Self-Concept Scale. No other substantial relationships were found in this exploration of the data.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The problem. The purpose of this study was to attempt to define the nature, direction, and magnitude of the impact, if any, of the vocational evaluation process on rehabilitation clients.

Anecdotal information and published literature had indicated that there is an expectation and belief, among many professionals in vocational evaluation, that the vocational evaluation process does impact on clients and in fact, produces a positive change in these individuals. The actual nature of the change, although subject to much speculation, has not as yet been clearly identified. Research in this area has been limited and results of the studies have been mixed. There is some indication that clients may become more proficient in their ability to assess their own performance (as opposed to cognitive) abilities (H. Kennedy, 1974) and may become more "aware" of a vocational goal (Dunn & Korn, 1973). However, attempts to measure change in other areas, such as self-concept, have not demonstrated statistically significant change.

A variety of explanantions may be advanced to explain the apparent failure of previous research to document client

change following vocational evaluation. The most obvious is that no change actually takes place and that the beliefs of vocational evaluation professionals are invalid. However, if the assumption is made that these beliefs have some basis in fact, then other explanations must be pursued. Certainly, methodological problems may be involved. Limited sample size, poor instrumentation, and lack of control groups are common to all previous research studies on this issue and may have contributed to the failure to find significant results. Another possibility is that change does occur, but not along the dimensions measured in the previous research studies.

Clarification of this issue was pursued in this study by increasing the range of dimensions explored for client change, by using a larger sample size, and by inclusion of a control group.

The research design. Bureau of Rehabilitation clients in vocational evaluation facilities and Bureau of Rehabilitation clients who had not yet undergone vocational evaluation were used as experimental and control condition subjects, respectively, in a quasi-experimental design to study and delineate the outcomes of the vocational evaluation process. All subjects volunteered for the study. A pre-post design was used in which experimental subjects were tested on the first and last days of vocational evaluation. Control subjects were tested concurrently at Bureau of Rehabilitation offices over a period of time identical to the length of

vocational evaluation at the facility most frequently utilized by the Bureau of Rehabilitation office at which they received services.

Client change was measured on several dimensions. Change in self-concept was measured using the Tennessee Self-Concept Scale. The Career Maturity Inventory Attitude - Scale was used to measure change in vocational maturity. Ability to state a job goal was measured with the use of an interview. In addition to these dimensions, a survey was developed (Vocational Evaluation Participant Survey - Part I) to explore the possibility that clients gain information about vocationally related assets and liabilities as a function of vocational evaluation.

Although the research study was primarily oriented towards delineating the issue of client change, other materials were collected to allow a descriptive picture of the vocational evaluation process to be obtained. These materials included demographic data on clients and on the vocational evaluation facilities used in the study. In addition, vocational evaluators were asked to respond to a questionnaire regarding areas of client change which they felt occurred as a function of vocational evaluation. At the posttest, experimental clients were asked to respond to a questionnaire concerning their reactions to the vocational evaluation process.

The primary hypotheses investigated were that clients would show greater positive change on the Tennessee

Self-Concept Scale and the Career Maturity Inventory - Attitude Scale, and would be better able to state a job goal following vocational evaluation than would clients who did not go through vocational evaluation. Statistical analyses were used to test these hypotheses. Descriptive statistics were used to summarize the other data collected in the study.

Results. No differences were found between the experimental and control groups on demographic variables. The analysis of the data failed to find statistical support for the hypotheses tested in this study. Experimental subjects did not show significantly greater change on the self-concept measure or on the vocational maturity measure or in the ability to state a job goal or in the specificity of the job goal stated than did the control subjects. In view of the failure to reject the null hypotheses, it was felt useful to explore various relationships of the data through statistical analyses. Results of these analyses indicate that there is a possibility that a slight relationship may exist between change in vocational maturity, as measured by the Career Maturity Inventory - Attitude Scale, and (a) client age, (b) client's primary disability, and (c) the consistency with which the client states a job goal from pre- to post-testing. A slight, inverse relationship may exist between evaluators' years of experience and client change on the Total Positive Subscale of the Tennessee Self-Concept Scale. No other substantial relationships were found between

difference scores on the two standardized instruments and selected client, facility, and evaluator demographic variables. Other variables found to be not related to the dependent measures included client performance on the pre-test measures, ability of clients to state a specific job goal, and the consistency of clients' job goals (pre- to post-).

To explore the utility of the Vocational Evaluation Participant Survey - Part I, an analysis of variance was conducted to determine if there were differences in information gain between experimental and control clients. Significant differences were found on two of the subscales; however, inspection of the cell means revealed that the direction of the differences were opposite to that hypothesized, with control clients showing greater gain than experimental clients.

Responses to the Survey for Vocational Evaluation Staff Members were collated. Results revealed that administrators of evaluation units, evaluators, and evaluator aides generally agreed that client change in evaluation occurs in the areas of "knowledge about abilities," "knowledge about interests," "ability to state a job goal," "change in self-concept," and "ability to meet the usual demands of work."

Discussion

The purpose of this study was to attempt to delineate the immediate outcome or outcomes of vocational evaluation

for clients. The results of the study failed to reveal differences on a number of measures between clients completing vocational evaluation and a similar group of clients not exposed to vocational evaluation. There are a number of possible explanations for the lack of significant findings.

The first that can be considered is that the choice of areas of client change chosen for study may have been inappropriate. These areas were initially chosen on the basis of a review of the literature and anecdotal information from vocational evaluation professionals. However, it was possible that the professionals dealing with the clients in this study may have been markedly different from professionals cited in the literature in terms of their beliefs about client outcome. If this was so, then these differing sets of beliefs may have influenced their interactions with clients such that the clients would not show change on the dimensions being measured. Thus, the vocational evaluation professionals in the study were asked to indicate areas of client change which they believed occurred. The results of this questionnaire indicated that the Michigan vocational evaluation professionals were quite similar in their beliefs on this issue to vocational evaluation professionals cited in the literature. The results also dovetailed nicely with the dimensions of client change chosen for examination in this study. Thus, vocational evaluation professionals said they believed clients changed in their knowledge about abilities and interests; the Vocational Evaluation Participant Survey - Part I was used to

test for client gain in knowledge about abilities and interests. Vocational evaluation professionals said they believed clients changed in their ability to state a job goal; clients in the study were asked to state their job goal. Finally, vocational evaluation professionals said they believed clients changed in self-concept; the Tennessee Self-Concept Scale was used in the study to test for change in self-concept. Only one of the top five areas of expected client change was not tested for in this study. That area was the "ability to meet the usual demands of work."

Thus, it appears that the choice of client change dimensions for study was not inappropriate, at least in terms of the expectations of the vocational evaluation professionals working with the clients in this study. Even so, no significant changes on these dimensions were found in the study. Other explanations must be pursued.

The most obvious is, of course, that vocational evaluation professionals are inaccurate; that is, that the changes they believe occur, do not. It is possible that vocational evaluation is simply a diagnostic process and, as such, has no impact upon the client. The analogy to a medical diagnostic test, such as an X-ray, can be made. Like an X-ray, perhaps vocational evaluation simply provides information <u>about</u> an individual, but does not produce a change in that individual. This is not to say that the interpretation of the results of the diagnostic procedure may not produce a change, but only that the process in and of itself does not.

For the sake of argument, let us put aside the foregoing explanation for the moment and assume that, in fact, client change does occur. What other explanations would account for the failure of the present study to find significant changes? Certainly, methodological issues must be considered. Perhaps vocational evaluation has only a very weak treatment effect and client change was not found because (a) the sample size was not large enough or (b) the instruments used were not sensitive enough. Although these are genuine possibilities, the data analysis approaches used in this study tended to allow both liberal and powerful tests of the hypotheses. The failure to find significance, even under these conditions, suggests that these methodological issues may not represent critical limitations. Rather, it seems more likely that they may contribute to, but not fully account for, the failure to find significance.

Another possibility is that the areas of expected client change may be somewhat overstated, although not totally inaccurate. For example, clients may perhaps regard themselves in a somewhat more positive light at the end of vocational evaluation. However, it may be an overstatement to say that this represents a change in self-concept. Self-concept is generally regarded as a fairly stable personality construct (e.g., Coopersmith, 1967) and perhaps we should not be surprised to find no changes in this construct (as we are able to measure it) as a result of such a short-term process as vocational evaluation.

Similarily, evaluators feel that clients gain self-knowledge about their abilities, assets, and liabilities. Perhaps what they really gain is self-knowledge about abilities and so on only with respect to specific tasks. Thus, clients report that they found out that they were good at a specific task, such as "putting together the stepladder." They do not generalize this to saying that they are good at tasks requiring manual dexterity, for example. Again, it is possible that the study attempted to measure too gross or abstract a change; perhaps the testing for change must move to more specific and concrete levels.

It is impossible to say with absolute certainty why the study failed to find significant change on the dependent measures as a function of vocational evaluation. However, it does seem plausible that the failure probably lies in a combination of methodological problems and inability to measure or state precisely the specific areas in which change occurs.

Two other results of the study merit discussion. The first is the puzzling result of the analysis of the results of the Vocational Evaluation Participant Survey - Part I. This analysis found significant differences between groups on two of the subscales, but the direction of the differences was in favor of greater information gain on the part of the control, rather than the experimental, group. Certainly this is inconsistent with expectations. It is possible, of course, that the results reflect large amounts of error variance. The test-retest stability estimates for the instrument,

although not strong enough to totally eliminate this consideration, at least suggest that this may not be the only explanation for the findings and that other explanations must also be considered.

It may be recalled that the experimental group clients were able to state a job goal with greater specificity on the pretest than were control group clients. It is possible that the findings on the Vocational Evaluation Participant Survey - Part I reflect this phenomenom, at least in part. Perhaps clients, by the time they go into vocational evaluation, have received at least some confirmation from their Bureau of Rehabilitation counselors that a specific job goal is a real possibility for them and that part of the purpose of vocational evaluation will be to confirm or disconfirm this hypothesis. Thus, it is possible that these clients responded to the Vocational Evaluation Participant Survey questions primarily on the basis of their knowledge about abilities, traits, and preferences which were consistent with the specific job goal. On the other hand, control group clients had perhaps not received such a confirmation and hence, responded more on the basis of self-knowledge. The experimental group, then, may have used an external referent for evaluating each item; the control group may have used a more internal referent and may have shown more variability because they were more involved in exploring job alternatives and had no stable external referent to use for evaluating items. Thus, it is possible that the Survey was not truly measuring

information gain.

Another possibility, discussed earlier in this chapter, is that the Survey was too abstract in content to measure the types of information gains that experimental clients actually achieved. That is, vocational evaluation clients may gain in information, but only with respect to their abilities on specific tasks and not in terms of their more general vocational assets and liabilities.

Again, it is impossible to state with certainty the reason for the inconsistency of the findings with those hypothesized. It is probable that there is a combination of factors responsible and further research with the Survey would be necessary to clarify the issue.

A second aspect of the study that merits further mention is the finding that experimental subjects who scored high on the standardized tests on the pretest did not show differential change on the posttest compared to the posttest performance of experimental clients who scored low on these measures on the pretest. It may be recalled from previous chapters that consistency theory (Festinger, 1957) had suggested such differences might occur. However, this application of the theory was not supported in the present study. It seems likely that the size of the sample contributed to this failure to find differences by limiting the number of clients available to be present in each of the subgroups. Therefore, this approach may merit use in future studies with larger sample sizes.

Implications for Future Research

It appears that there are several approaches which future studies might take with respect to the issue of client outcome of vocational evaluation. These approaches seem to deal with one of two issues: methodological considerations and choice of the independent variables.

There appears to be little doubt that vocational evaluation has a relatively weak treatment effect, if any exists at all. Therefore, with respect to methodological concerns, it seems advisable that future studies use a much larger sample size to test for client change. Besides the obvious utility of such a strategy (in terms of aiding in finding significance even for weak treatment effects), it would be useful from another standpoint. As was noted in an earlier chapter, it appears that there may be some relationships between client change on some of the dependent measures and selected client characteristics. It is probably not unreasonable to think that vocational evaluation may impact differentially on clients, depending upon characteristics of the individual. A much larger sample size would allow hypotheses of differential change to be tested effectively as the subgroups into which clients could be divided would be much more substantial in size.

Another methodological issue that might be dealt with in future studies is that of instrumentation. This problem has plagued all of the studies on the client change issue. Standardization of a variety of instruments for the vocational

evaluation population would be helpful. On an intuitive basis, it seems likely that further development of the Vocational Evaluation Participant Survey - Part I, using larger item pools and, perhaps, less abstract items, could also be helpful in terms of delineating the client change issue.

From the standpoint of the choice of independent variables, several approaches to future research can be suggested. First, it seems likely that, due to the nature of the vocational evaluation process, client change is most likely to occur in areas closely related to vocational issues. Thus, it seems reasonable for future research to focus on such issues, rather than on change in general personality constructs, such as self-concept which, by definition, can be expected to be fairly stable in nature and hence, less amenable to change based upon short-term treatment modalities.

The general inability of clients to translate information from the specific to the abstract suggests other possibilities for future research. For instance, many clients attend a staffing at the end of their evaluation during which the results of the evaluation and recommendations for future planning are discussed with the client and the referring counselor. In the present study, two-thirds of the clients were reported to have attended such a staffing. However, this figure is somewhat misleading as many of the clients posttested were scheduled for a staffing (usually later that day), but had not actually attended as of the time of the posttest.

Because of the unreliability of the reporting of these data, it was not possible to see if there were any systematic differences between clients who had attended a staffing and those who had not. It might be profitable to look at this issue in the future, using pre- and post-staffing as an independent variable.

Along similar lines, future studies might examine the amount of information the client has before and after he/she meets with the referring counselor following evaluation to discuss the results and make plans for future services. Recent research (Weinstein, 1978) indicates that the counselor gains significantly in information about a client following evaluation. The extent to which that information is shared with the client would be of interest. It is possible that such information is one of the primary outcomes of the vocational evaluation process for clients and that it requires some sort of intermediary, such as a staffing or the referring counselor, to be available to the client.

The issue of information transmittal to the client could also be approached in another way. Experimental treatments, designed to help the client translate specific task performance data into information about his or her vocational skills, could be implemented to see if information gain could be increased.

Obviously, any number of studies could be proposed to examine the client change issue. However, the foregoing are felt to hold the most potential for providing clarification.

Conclusions

The hypotheses examined in this study were that clients completing vocational evaluation would show greater positive change in self-concept, vocational maturity, and ability to state a specific job goal than would clients not exposed to vocational evaluation over a comparable period of time. The findings of the study indicated that, in general, these hypotheses were consistent with the beliefs about client change held by the vocational evaluation professionals involved in the study. However, the hypotheses were not supported by the present research. Rather, it must be concluded that, at least for the clients in the study, vocational evaluation probably had no treatment effect with respect to the dimensions studied. Examination of trends in the data suggest that there is a possiblity that clients may react differentially to the vocational evaluation process, based upon individual characteristics. It is recommended that future research utilize much larger samples so that subgroups of clients, based on individual characteristics, will be of sufficient size to allow for effective hypothesis-testing.

Another potentially profitable line of inquiry into the client change issue may involve looking at client information gain before and after a formal staffing and/or a conference between the client and the referring counselor. It seems plausible that client outcome may be dependent upon an intermediary process or person who "translates" the results of the evaluation into material meaningful to the individual

client. Thus, it is possible that vocational evaluation is a purely diagnostic process with no direct outcome *per se* for the client; rather, client "outcome" may instead be a function of the interpretation of the results of the evaluation to the client.

BIBLIOGRAPHY

BIBLIOGRAPHY

Allen, T. Preliminary manual: Abilities self rating form. Menomonie, Wis.: Research and Training Center, June, 1973.

Allison, K. G. A follow-up study to determine the significance of evaluation recommendations against actual client rehabilitation outcome. Unpublished research paper, University of Wisconsin-Stout, 1970.

Baker, R. J., & Lorenz, J. R. Convergence and divergence in rehabilitation counseling and vocational evaluation: Implications for rehabilitation education. The Journal of Applied Rehabilitation Counseling, 1978, 9(1), 27-32.

Bregman, C., 1967. Cited in Roberts, C. L. Definitions, objectives and goals in work evaluation. In W. A. Pruitt & R. N. Pacinelli (Eds.), Work evaluation in rehabilitation. Menomonie, Wis.: Materials Development Center, 1969.

Buros, O. K. (Ed.) The seventh mental measurement yearbook. Highland Park, N. J.: Gryphon Press, 1972.

Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963.

Coopersmith, S. The antecedents of self-esteem. San Francisco: W. H. Freeman, 1967.

Cornfield, J., & Tukey, J. Average value of mean squares in factorials. Annals of Mathematical Statistics, 1956, 27, 907-949.

Crary, W. G., 1966. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Crites, J. O. Career Maturity Inventory: Theory and research handbook. Monterey, Calif.: McGraw-Hill, 1973.

Cronbach, L. J. Coefficient alpha and the internal structure of tests. Psychometrika, 1951, 16, 297-334.

Dineen, T. B. Work evaluation as a technique for improving the self-concept. Vocational Evaluation and Work Adjustment Bulletin, 1975, 8(4), 28-34.

Dunn, D. J., & Korn, T. A. Community based rehabilitation services for youthful offenders in a rural area. Menomonie, Wis.: Research and Training Center, November, 1973.

Feather, N. T., 1969. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Festinger, L. A theory of cognitive dissonance. Evanston, Ill.: Row, Peterson, 1957.

Fitts, W. Manual: Tennessee Self-Concept Scale, Nashville, Tn.: Counselor Recordings and Tests, 1964.

Gellman, W. The principles of vocational evaluation. Rehabilitation Literature, 1968, 29(4), 98-102.

Glass, G. V., & Stanley, J. C. Statistical methods in education and psychology. Englewood Cliffs, N. J.: Prentice-Hall, 1970.

Goodson, W. D., 1969. Cited in Crites, J. O., Career Maturity Inventory: Theory and research handbook. Monterey, Calif.: McGraw-Hill, 1973.

Gwilliam, R. A taxonomy of goals and expectations for a work evaluation service. Unpublished paper, University of Utah, 1970.

Handelsman, R. D., & Wurtz, R. E. The validity of pre-vocational evaluation predictions in the community workshop. In W. A. Pruitt (Ed.), Readings in work evaluation I. Menomonie, Wis.: Materials Development Center, 1970.

Jackson, D. N., & Messick, S. (Eds.) Problems in human assessment. New York: McGraw-Hill, 1967.

Jacobs, W. R. Client changes in self-concept following work evaluation. Unpublished Master's thesis, University of Wisconsin-Stout, 1971.

Jones, R. Convergence and divergence in rehabilitation counseling and vocational evaluation: A reaction paper. The Journal of Applied Rehabilitation Counseling, 1978, 9(1), 59-64.

Kennedy, H. Changes in task-specific self-concepts after vocational evaluation. Vocational Evaluation and Work Adjustment Bulletin, 1974, 7(2), 27-33.

Kennedy, H. G. A demographic study of rehabilitated and non-rehabilitated clients. Journal of Applied Rehabilitation Counseling, 1974, 5(4), 238-243.

Lang, R. J., & Vernon, P. E. Dimensionality of the perceived self: The Tennessee Self-Concept Scale. British Journal of Social and Clinical Psychology, 1977, 16, 363-371.

Leedy, R. E. Reading improvement for adults. New York: McGraw-Hill, 1957.

McAlees, D. C. Convergence and divergence in rehabilitation counseling and vocational evaluation: A review. The Journal of Applied Rehabilitation Counseling, 1978, 9(1), 59-64.

Mehrens, W. A., & Lehmann, I. J. Standardized tests in education. New York: Holt, Rinehart & Winston, 1973.

Millimet, C. R., & Gardner, D. F., 1972. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Miskimins, R. W. The Miskimins Self-Goal-Other Discrepancy Scale. Fort Collins, Colo.: Rocky Mountain Behavioral Science Institute, 1968.

Reagles, K. W. Reaction to convergence and divergence in rehabilitation counseling and vocational evaluation. The Journal of Applied Rehabilitation Counseling, 1978, 9(1), 43-48.

Roberts, C. L. Definitions, objectives and goals in work evaluation. In W. A. Pruitt & R. N. Pacinelli (Eds.), Work evaluation in rehabilitation. Menomonie, Wis.: Materials Development Center, 1969.

Robinson, C. Personal communication, December 29, 1977.

Shrauger, J. S. Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Sink, J. M. Evaluation - a reason for concern. In W. A. Pruitt & R. N. Pacinelli (Eds.), Work evaluation in rehabilitation. Menomonie, Wis.: Materials Development Center, 1969.

Smith, M. B., 1968. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Spector, A. J., 1956. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions, Psychological Bulletin, 1975, 82(4), 581-596.

Stotland, E., Thorley, S., Thomas, E., Cohen, A. R., & Zander, A., 1957. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Struthers, R. D. Factors related to vocational stability among persons rehabilitated by the Michigan Division of Vocational Rehabilitation. Unpublished doctoral dissertation, Michigan State University, 1971.

Suinn, R. M., Osborne, D., & Page, W., 1962. Cited in Shrauger, J. S., Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 1975, 82(4), 581-596.

Tatsuoka, M. M. Significance tests: Univariate and multivariate. Selected topics in advanced statistics: An elementary approach, no. 4. Champaign, Ill.: Institute for Personality and Ability Testing, 1971.

Tenth Institute on Rehabilitation Services. Vocational evaluation and work adjustment services in vocational rehabilitation. Menomonie, Wis.: Materials Development Center, 1972.

Thomas, S. W. Reaction to convergence and divergence in rehabilitation counseling and vocational evaluation from a vocational evaluation service perspective. The Journal of Applied Rehabilitation Counseling, 1978, 9(1), 71-78.

Tiffany, D. W., Cowan, J. R., & Shontz, F. C., 1969. Cited in Fitts, W. H., The self-concept and performance. Nashville, Tn.: Counselor Recordings and Tests, 1972.

Vocational evaluation project final report, Part I., Vocational Evaluation and Work Adjustment Bulletin, 8(Special Edition), July, 1975.

Weinstein, H. P. The utility of facility-based vocational evaluation services on referring Michigan Bureau of Rehabilitation Counselors. Unpublished doctoral dissertation, Michigan State University, 1978.

APPENDICES

APPENDIX A

RESEARCH CONTRACT

ADMINISTRATIVE AGREEMENT

This document indicates the agreement of the Director of:

Name of facility_____

Address_____

_____

to allow research (to be supervised by Anne Chandler, Instructor, Michigan State University) to be conducted in the aforementioned facility.

The following list of responsibilities constitutes an agreement between the above facility and a researcher from Michigan State University to insure the continuity of this study and the protection and confidentiality of subjects of the study on client change following vocational evaluation.

The Director of_____agrees to:

1. Provide access to the files of clients attending the facility for vocational evaluation during the time period February 1, 1978 through July 1, 1978 providing that a signed release from the client whose file is to be accessed is obtained.

2. Allow the use of said files for the purpose of performing quantitative analyses of the data therein.

3. Allow a researcher from Michigan State University to meet with selected clients attending the facility during the time period February 1, 1978 through July 1, 1978.

4. Provide other additional information pertinent to the research study as requested.

The Researcher from Michigan State University agrees to:

1. Take full responsibility for protecting the confidentiality of the individuals whose files are to be accessed.

2. Maintain the physical integrity and security of the files and their content when working with them.

3. Secure from each client a consent form for participation in the study.

4. Take full responsibility for protecting the confidentiality of test and survey results obtained on each individual participating in the study.

5. Inform the facility of the availability of the results of this study and provide any necessary assistance in interpretation of the study's findings.

These agreements shall be in force until the final report is written.

SIGNED:

_____ _____

(Director, (Date)

_____ _____

(Researcher, Michigan State University) (Date)

APPENDIX B

INSTRUCTIONS FOR

RESEARCH ASSISTANTS

GENERAL INSTRUCTIONS AND PROCEDURES FOR RESEARCH ASSISTANTS (pre-test; facility)

1. Check in with the contact person at the facility.
   a. introduce yourself
   b. thank him/her for allowing us to use the facility for the study
   c. ask what room is available for your use
   d. ask if you may speak with someone who knows the nature of the clients' disabilities
   e. ask the contact person to fill in the green and yellow surveys (leave one copy each with him/her)

2. Contact person identified in 1d.
   a. ask him/her if there are any study clients who may not be appropriate:
      1) Deaf - may be excluded if there is no one available to interpret directions; if someone can interpret directions, have client take each test by self-administration
      2) Blind - may be excluded if unable to complete answer sheets
      3) Mental Retardation - may be excluded if very low level and incapable of completing answer sheets.
      4) Physical Disability - may be excluded if physically unable to complete answer sheets.
      5) Anyone who has a guardian and cannot sign an informed consent agreement on their own behalf may be excluded.

3. Begin meeting with individual clients to obtained Informed Consent Agreements and administer Part II of the Vocational Evaluation Participant Survey.

4. Do group testing of clients.

5. Give person in (2) blue survey sheets. Ask when each client is expected to complete evaluation and mark this on client list.

6. Collect yellow and green surveys.

INSTRUCTIONS FOR ADMINISTERING CLIENT TEST INSTRUMENTS

On the attached page, you will find a checklist of the instruments you will need to take with you to a given facility and the number of each instrument you will need.

Following are general directions for administering client test instruments.

1. All test materials are to be administered orally.

2. Depending upon the room facilities available to you, all clients can be tested at once or in several small groups. The only exception to this is with Part II of the Vocational Evaluation Participant Survey. For this part, you will need to meet individually with each client for a few minutes. Testing will take 45-60 minutes for the groups and 5-15 minutes for each interview.

3. Individual interviews should take place before group testing. When you first meet with a client, read him/her the "Statement on Purpose of Study." Ask the individual if he/she has any questions and try to answer them as fully as you can without talking about what you think the results of the study will be. Read the Informed Consent Agreement to the client; ask the person if she/he will take part in the study and to sign the Agreement. Obtain two copies for each client; leave one with the facility and return one to MSU with the data. Witness these and then proceed to Part II of the Vocational Evaluation Participant Survey. When this is finished, tell the client you will be asking him/her to come back in a little bit to answer some more questions. If an individual does not wish to participate, thank him/her for their time and go on to the next client. Do not test or interview any client who has not signed the Informed Consent Agreements.

4. When you are finished with all the individual interviews, you are ready to do the group testing. Testing should be done in this order:
    a. Tennessee Self-Concept Scale
    b. Career Maturity Inventory - Attitude Scale
    c. Vocational Evaluation Participant Survey - Part I.

    After each test, allow clients to take a few minutes break (5 minutes max.) and then go on to the next test.

    The directions for each test are on separate pages. Read them slowly to the clients and ask if they have any questions. Be sure clients put their first name, last initial and year of birth on each answer sheet for identification.

    Read the items from each test slowly and pause briefly between items. Collect all answer sheets at the end of each test.

CAREER MATURITY INVENTORY - ATTITUDE SCALE: INSTRUCTIONS

1. Pass out an answer sheet to each person.

2. Pass out a pencil to each person.

3. Read these instructions to clients:

   "Look at the answer sheet. In the upper right hand corner is a part that has name, date, age and so on printed on it. Fill in the 'name' section by putting the first letter of your last name over where it says 'Last". Then write in your first name. Fill in your date of birth (month and year). Do not fill in any other information."

4. Check to see that the requested information has been filled in.

5. Then read the following statement to the clients:

   "The Career Maturity Inventory has been constructed to survey the various attitudes and competencies which are important in making decisions about your career; it is not a personality inventory, an interest inventory, an achievement test, or an aptitude test.

   The Attitude Scale, which you are about to take, asks you about your attitudes and feelings toward making a career choice and entering the world of work. Please complete this inventory carefully and thoughtfully.

   I will be reading a number of statements about career choice. Career choice means the kind of job or work which you thiank you will probably be doing when you have finished all of your schooling or training.

   I will read the statements and you should mark your answers in the section marked ATTITUDE SCALE on the Answer Sheet. If you agree or mostly agree with the statement, use your pencil to blacken the space marked with a T. If you disagree or mostly disagree with the statement, blacken the space marked with an F. Be sure that your marks are heavy and black and that they completely fill the spaces. Cross out or erase completely any answer you wish to change. Do not make any stray pencil marks on the Answer Sheet."

6. Begin reading each statement. Be sure to read the number of the statement, then read the statement slowly. Pause briefly at the end of each statement before reading the next statement.

TENNESSEE SELF CONCEPT SCALE: INSTRUCTIONS

1. Pass out an answer sheet to each person.

2. Pass out a pencil to each person.

3. Pass out a 5X8 "Responses" card to each person.

4. Read these instructions to clients:

   "Look at the answer sheet. Where it says 'Name', fill in your first name and the first initial of your last name. Where it says 'Date', fill in your date of birth (month and year). Do not fill in any other information."

5. Check to see that the requested information has been filled in.

6. Then read the following statement to the clients:

   "The statements on this survey are to help you describe yourself as you see yourself. Please respond to them as if you were describing yourself to yourself. Do not omit any item! Listen to each statement carefully as I read it; then select one of the five responses listed on the yellow card. On your answer sheet, put a circle around the response you chose. If you want to change an answer after you have circled it, do not erase it but put an X mark through the response and then circle the response you want.

   Please listen carefully to the number of each statement I read. They will not be in the right order, so be sure you are marking the answer sheet for the right item. In each column, we will do all the white colored items, then go back and do the shaded items before we go on to the next column.

   Remember, put a circle around the response number you have chosen for each statement. You can use the yellow card to help you remember what each response number means."

7. Begin reading each statement. Be sure to read the number of the statement, then read the statement slowly. Pause briefly at the end of each statement before reading the next statement. At the beginning of each column, check quickly to make sure everyone is filling in the right number on the answer sheet.

INSTRUCTIONS FOR RESEARCH ASSISTANTS

In this packet you will find a number of items. On the attached page, you will find a checklist of the materials you will need and the number of each you will need for your visit to this particular facility. Following are the directions for each of the materials. Directions for the administration of client test materials are in a separate packet.

1. Client Demographic Data Survey (pink)

   This should be filled out at the post-test visit. The data should be obtained from the client's file and can usually be found in the referral packet from VRS. If information to answer a particular question is not in file, mark "N/A" by that question. Information regarding the evaluator for the client should be obtained from the person in charge of the evaluator staff at the facility. A Client Demographic Data Survey must be filled out on each client taking part in the study.

2. Client Activities Sheet (blue)

   A sheet for each client you pre-test should be given to the person in charge of the evaluator staff at the facility on the day you do the pre-test. Ask the person you give these sheets to, to place it in the appropriate client's file. Be sure you have labelled each sheet with a client's name.

3. Survey for Evaluators (yellow)

   This should be distributed to all staff affiliated with the vocational evaluation unit in the facility. This would include administrators and evaluator aides as well as evaluators. They should be distributed as soon as you arrive at the facility and collected before you leave.

4. Facility Demographic Data Survey (green)

   This should be distributed to the person in charge of the evaluation unit. Give it to this person as soon as you arrive at the facility and collect it before you leave.

APPENDIX C

FACILITY DEMOGRAPHIC

DATA SURVEY

FACILITY DEMOGRAPHIC DATA SURVEY

Name of facility_____

City/Town_____

1. What is the average number of clients in vocational evaluation at this facility on a given day? _____

2. Please complete the following table:

Referral Source	% of total referrals	Average length of V/E
EXAMPLE: Voc. Rehab.	55%	3 weeks
a.		
b.		
c.		
d.		

3. Please indicate the job titles and the number of persons in each position in the vocational evaluation unit:

Staff Position (Job title)	No. persons with this job title

4. What is the facility's status with respect to CARF certification? _____

_____

5. Which of the following work sample batteries are used, at least in part?

____Singer ____ JEVS ____TAP ____WREST

____Valpar ____ McCarron-Dial ____Other: _____

APPENDIX D

CLIENT ACTIVITIES SHEET

CLIENT ACTIVITIES SHEET

Client _____

Please place this sheet in this client's evaluation file. As she/he completes an activity provided by your facility, please check it off. Obviously, every client will not complete every activity; nor will every facility even offer every activity. However, please try to check off all activities in which the client does participate. (Check only activities that the facility provided.) If there is some activity not on the list to which the client has a significant exposure, please note this in the "other" category. Please give this completed form to the person in charge of the evaluation unit on this client's last day in vocational evaluation. Thanks.

This individual took part in the following activities, provided by this facility, during vocational evaluation:

_____ Intake interview

_____ Orientation

_____ Work samples

_____ Situational assessment

_____ Group counseling (Approx. no. of hours during V/E _____)

_____ Individual counseling (Approx. no. of hours during V/E _____)

_____ Job seeking skills classes or instruction

_____ Work adjustment training

_____ Psychological testing

_____ Client staffing

_____ Personal adjustment training

_____ Vocational training

_____ Remedial education services

_____ Social activities (organized, e.g., dances, bowling, etc.)

_____ On the job evaluation

_____ Other: _____

_____

TOTAL NUMBER OF DAYS THIS INDIVIDUAL WAS IN VOCATIONAL EVALUATION _____

APPENDIX E

SURVEY FOR VOCATIONAL EVALUATION STAFF MEMBERS

SURVEY FOR VOCATIONAL EVALUATION STAFF MEMBERS

Which of the following types of change do you believe generally take place in most clients taking part in vocational evaluation? Please check the five that you feel are the most prevalent and the direction of the change for each of these five.

		Pos.	Neg.
a. ability to state a job goal	____	____	____
b. knowledge about intellectual capacities	____	____	____
c. ability to relate to supervisors	____	____	____
d. ability to relate to co-workers	____	____	____
e. change in self-concept	____	____	____
f. ability to meet standards of production	____	____	____
g. decision-making capacity	____	____	____
h. knowledge about job-seeking skills	____	____	____
i. knowledge about job market	____	____	____
j. knowledge about interests	____	____	____
k. knowledge about abilities	____	____	____
l. ability to meet usual demands of work (being on time, etc.)	____	____	____
m. knowledge about physical capacities	____	____	____
n. motivation to work	____	____	____

PERSONAL DATA:

Job Title_____

APPENDIX F

STATEMENT OF PURPOSE OF STUDY

STATEMENT OF PURPOSE OF STUDY (VOCATIONAL EVAL. CLIENTS AND CONTROL CLIENTS)

NOTE TO RESEARCH ASSISTANTS: SUBSTITUTE UNDERLINED MATERIAL IN PARENTHESES FOR THE NON-UNDERLINED MATERIAL IN PARENTHESES WHEN YOU ARE READING STATEMENT TO A CONTROL GROUP CLIENT.)

We would like you to take part in a study being run by researchers at Michigan State University. The study will help us better understand what people like yourself learn in vocational evaluation. If you decide to take part in the study, you will be asked a number of questions today and again (at the end of your evaluation) (in a few weeks). Your answers to these questions will be kept private and won't be shared with anyone else unless you ask us to give them to someone else. (Even though you are not going through vocational evaluation right now, you can help us understand some of the differences between what people learn from evaluation compared with what they learn when they aren't going through evaluation.)

We hope the study will help us learn more about how vocational evaluation works and in what ways it helps people. Your participation in the study is important since you are going through (evaluation) (vocational rehabilitation) right now and can give us a lot of useful information about your experiences. People in evaluation and at Voc Rehab offices at places all over Michigan are taking part in this study. We hope that by combining all the information from everybody, including you, we will be able to help make vocational evaluation a more helpful experience for people in the future.

APPENDIX G

INFORMED CONSENT AGREEMENT

INFORMED CONSENT AGREEMENT

STUDY ON CLIENT OUTCOME IN VOCATIONAL EVALUATION

I, _____, have had the purposes of this project explained to me. I understand that the general purpose of the procedures to be used in this project is the better understanding of what people learn in vocational evaluation.

I understand that the personal information to be collected during the course of this project is essential to the project and this information is confidential and will not be released to anyone without my express written consent. I give this vocational evaluation facility, _____ and/or the Bureau of Rehabilitation, permission to allow the Michigan State University researchers to obtain any necessary information from my personal file and records at the facility and/or the Bureau of Rehabilitation office. In any research report prepared subsequent to this project, I will not be identified by name, and other identifying information will be changed so as to protect my identity.

I understand that I can stop participating in the study at any time during the study. This consent agreement will terminate July 1, 1978.

Signed _____

Date _____

Witness _____

I certify that I have read this document, or had it read to me, prior to my signing it.

Signed _____

APPENDIX H

VOCATIONAL EVALUATION

PARTICIPANT SURVEY - PART II.

VOCATIONAL EVALUATION PARTICIPANT SURVEY - PART II.-INSTRUCTIONS

1. Use forms labelled Vocational Evaluation Participant Survey - Part II - Pre for all pre-tests and for post-tests on control clients.

2. Use forms labelled Vocational Evaluation Participant Survey - Part II - Post for post-tests on clients who have completed vocational evaluation.

3. When reading questions which require the client to choose one of four responses, read all responses before asking clients to choose one.

4. On questions 2, 4, 7, 8 and 9, if the client gives a single response, ask, "Anything else?".

5. If the clients seems unable to come up with an answer to questions 2, 4, 7, 8 and 9, you may suggest that there are many possible answers to those questions and that each person answering might give a different answer. Can they think of anything they especially liked (or whatever, depending upon the question the client is having difficulty answering).

VOCATIONAL EVALUATION PARTICIPANT SURVEY - PART II. (PRE)

1. Do you know what job you would like to have? ____YES ____NO

   If "yes," how sure are you that you would like this job?

   ___Very sure ___Pretty sure ___A little unsure ___Not sure

   If "yes", how sure are you that you will be able to get this job?

   ___Very sure ___Pretty sure ___A little unsure ___Not sure

   If "yes", what is the name of the job you would like to have?_____

   _____

2. (E clients only) What do you think you may learn while you are in vocational evaluation here?_____

   _____

VOCATIONAL EVALUATION PARTICIPANT SURVEY - PART II. (POST)

1. Do you know what job you would like to have? ___YES ___NO

   If "yes", how sure are you that you would like this job?

   ___Very sure ___Pretty sure ___A little unsure ___Not sure

   If "yes", how sure are you that you will be able to get this job?

   ___Very sure ___Pretty sure ___A little unsure ___Not sure

   If "yes", what is the name of the job you would like to have?_____

   _____

2. What did you learn from evaluation?_____

   _____

3. Have you changed your job goal because of vocational evaluation? ___YES ___NO

4. What kinds of information did you get from vocational evaluation that you thought were most helpful to you? _____

   _____

   What kinds of information did you get from vocational evaluation that you thought were least helpful to you?_____

   _____

5. Rate your evaluation as to how much you liked it:

   ___A lot ___Pretty much ___Not very much ___Not at all

6. Was vocational evaluation pretty much like what you thought it would be like? ___YES ___NO

7. What did you like most in vocational evaluation?_____

   _____

   What did you like least in vocational evaluation?_____

   _____

8. What other things or services do you think would help you to decide on a job?_____

APPENDIX I

VOCATIONAL EVALUATION

PARTICIPANT SURVEY - PART I.

VOCATIONAL EVALUATION PARTICIPANT SURVEY - PART I

DIRECTIONS FOR PART I.

I am going to read some sentences to you. For each sentence, you should decide if the sentence is true of you or not.

If it is true of you, you should circle the "T" on your answer sheet next to the number of the statement. If it is not true of you, you should circle the "F" on your answer sheet next to the number of the statement. If you don't know if the statement is true of you or not, you should circle the "DK" next to the number of the statement.

For example, if the statement is, "I like to go to the movies," you should decide if this statement is true of you. If it is true that you like to go to the moview, then you would mark the "T" on your answer sheet. If it is not true of you, then you would mark the "F" on your answer sheet. If you don't know whether you like to go to the movies or not, then you would mark the "DK" on your answer sheet. There are no "right" or "wrong" answers; just respond to each statement as honestly as you can. Do not skip any of the statements.

PART I.

1. I am afraid of new situations.
2. I am good at working with tools.
3. I am not very good at taking care of children.
4. I would be willing to work in hot, dusty places.
5. I don't like to have to meet customers on a job.
6. Other people think I get along well with my bosses or supervisors.
7. I am clumsy when it comes to working with small things.
8. I know how to interview for a job.
9. I know what kinds of job skills I have.
10. Other people think I would rather not have a job.
11. Once I learn a job, I can keep up with other workers well.
12. I am good at helping other people solve their problems.
13. I can learn to do complicated things well.
14. I am a good reader.
15. I am good at scientific things.
16. I am good at several sports.
17. I have trouble working when it is noisy.
18. I work better by myself than with others.
19. I enjoy watching television in my spare time.
20. I like to work in a large place.
21. Other people think I am a careful worker.
22. I like working with the same people every day.
23. I am a very dependable worker.
24. I like working in an office.
25. I am good at jobs which involve cleaning things up.
26. I know exactly what kind of job I'd like to have.

27. It seems like I am sick more often than most people.

28. I could do a job that required hard physical work every day.

29. I like to do the same things on my job every day.

30. I don't like to be told what to do on my job.

31. I don't mind doing things that are boring sometimes.

32. I am better than most people at working with my hands.

33. I don't mind getting messy when I work.

34. I have trouble getting to places on time.

35. One of the things I like about working is getting paid.

36. I know how to prepare healthful lunches for myself.

37. I think I may have some trouble keeping a job.

38. I am not very good at solving problems.

39. I have trouble repairing things.

40. I sometimes have trouble getting along with the other people on a job.

ANSWER SHEET

PART I. VOCATIONAL EVALUATION PARTICIPANT SURVEY

IF THE STATEMENT IS TRUE OF YOU, CIRCLE THE "T" . IF IT IS NOT TRUE OF YOU, CIRCLE THE "F". IF YOU ARE NOT SURE IF THE STATEMENT IS TRUE OF YOU OR NOT, CIRCLE THE "DK".

1.	T	F	DK	21.	T	F	DK
2.	T	F	DK	22.	T	F	DK
3.	T	F	DK	23.	T	F	DK
4.	T	F	DK	24.	T	F	DK
5.	T	F	DK	25.	T	F	DK
6.	T	F	DK	26.	T	F	DK
7.	T	F	DK	27.	T	F	DK
8.	T	F	DK	28.	T	F	DK
9.	T	F	DK	29.	T	F	DK
10.	T	F	DK	30.	T	F	DK
11.	T	F	DK	31.	T	F	DK
12.	T	F	DK	32.	T	F	DK
13.	T	F	DK	33.	T	F	DK
14.	T	F	DK	34.	T	F	DK
15.	T	F	DK	35.	T	F	DK
16.	T	F	DK	36.	T	F	DK
17.	T	F	DK	37.	T	F	DK
18.	T	F	DK	38.	T	F	DK
19.	T	F	DK	39.	T	F	DK
20.	T	F	DK	40.	T	F	DK

APPENDIX J

CLIENT DEMOGRAPHIC

DATA SURVEY

CLIENT DEMOGRAPHIC DATA SURVEY

I. Evaluator Information

1. Evaluator's Name _____

2. Highest Degree Earned _____

3. Number of years working in V/E _____

4. Name of facility _____

II. Referring Counselor Information

1. Counselor's Name _____

2. VRS Office _____

III. Client Information

1. Client's Name _____

2. Age _____ 3. Sex _____

4. Disability Type

   a. Primary disability _____

   b. Secondary disability _____

5. 5. Employment status at application (circle one)

   a. student

   b. employed

   c. unemployed

6. Education completed by client (circle one)

   a. 12 or more grades

   b. 9-11 grades

   c. 0-8 grades

7. Sources of client financial support (circle all those appropriate)

   a. self

   b. parents

   c. public assistance

   d. workman's compensation

   e. Social Security disability benefits

   f. SSI

   g. unemployment benefits

   h. other: _____

   _____

8. Marital status (circle one)

   a. single (never married)

   b. married

   c. divorced

   d. widowed

9. Number of children _____

   Ages of children _____

10. Reason(s) client was referred to facility for evaluation services. Please number each of the following to correspond with the order given in the referring counselor's reason for referral. If the reason for referral does not match with any of those listed, record it in "other".

   a. to aid in determining the client's feasibility (i.e., to determine whether or not the client will benefit from VRS services)

   b. to test the client's physical capacity and tolerance for industrial type pressure

   c. to develop a tentative vocational objective

   d. to assess the client's vocational skills, assets and liabilities

   e. to provide a rationale for providing case services (e.g., to aid in developing a plan for additional case services)

   f. primarily for documentation purposes (e.g., to justify a particular course of action)

   g. primarily for client growth

   h. other: _____

   _____

11. Types of reports currently in client's file (check all those appropriate):

   ____ General Medical ____Psychological

   ____ Other Medical (specify: _____)

12. Client resides: (circle one)

   a. independently: rents _____ owns _____

   b. with parents

   c. in supervised setting: group home _____ institution _____