

AN ANALYSIS OF JOB SATISFACTION OF EMPLOYED YOUTH  
INVOLVED IN AN EXPERIMENTAL SCHOOL  
DROPOUT REHABILITATION PROGRAM

By

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## PREFACE

During the past thirty years much interest has been shown in the concept of job satisfaction or worker attitudes. In the early years most attempts were made to associate job satisfaction with various aspects of the work environment, especially job performance. It was not until after World War II that investigators began to explore the relationships of worker personality and job satisfaction; and only in recent years to entertain the notion to combine work situation and worker personality variables in the same study. One of the prime forces which gave impetus to these investigations was the rise of social psychology as a discipline. With the concepts from social psychology and inferential statistics it was possible to use theoretical and statistical models not ordinarily available to many of the early investigators.

The primary objective of this study was to investigate differences in job satisfaction scores, one year after training, between the early posttested experimental and control groups of the 1964-1965 Manpower Development and Training Act project in Oklahoma City, by statistically "adjusting for" certain work situation and personal characteristic variables.

The writer wishes to express his deep appreciation to the dissertation committee, Drs. Victor Hornbostel, Chairman; John Egermeier, Charles Larsen, and Solomon Sutker. Special recognition is extended to Dr. Victor Hornbostel for his sincere interest and guidance.

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## TABLE OF CONTENTS

Chapter	Page
I. THE NATURE OF THE PROBLEM . . . . .	1
General Background Information . . . . .	1
General Statement of the Problem . . . . .	3
Statement of Hypotheses . . . . .	4
Operational Definitions . . . . .	6
II. THE THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE . . . . .	9
Approaches to the Study of Job Satisfaction . . . . .	9
Assumptions Basic to the Study . . . . .	13
Generalizations About Job Satisfaction . . . . .	16
III. RESEARCH DESIGN AND METHODOLOGY . . . . .	18
General Design of the Ford Foundation Project . . . . .	18
Basic Plan for the Study . . . . .	22
Methodology . . . . .	26
Instruments of Measurement . . . . .	26
Data Collection . . . . .	33
Statistical Procedures . . . . .	34
IV. PRESENTATION AND ANALYSIS OF THE DATA . . . . .	37
Testing of Questions Generated by the Design . . . . .	37
Testing of the Hypotheses . . . . .	41
V. CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS . . . . .	48
Limitations . . . . .	48
Conclusions . . . . .	50
Recommendations . . . . .	56
VI. SUMMARY OF THE STUDY . . . . .	57
SELECTED BIBLIOGRAPHY . . . . .	60
APPENDIX A . . . . .	63
APPENDIX B . . . . .	65

Chapter	Page
APPENDIX C . . . . .	71
APPENDIX D . . . . .	73

LIST OF TABLES

Table		Page
I.	Subjects Selected by the Oklahoma Employment Security Commission for Inclusion in the Project . . .	20
II.	Students Included in Analyses . . . . .	21
III.	Students Participating in the Study . . . . .	23
IV.	Posttest Only-Control Group Research Paradigm With an Analysis of Covariance Statistical Treatment . . . . .	25
V.	Brayfield-Rothe Job Satisfaction Blank, Table of Reliability and Validity Coefficients . . . . .	29
VI.	Collection of Data . . . . .	34
VII.	Analysis of Variance of Job Satisfaction Scores Among Experimental Groups and Control Group . . . . .	38
VIII.	The $t$ Values of Job Satisfaction Scores Between Male and Female Subjects . . . . .	38
IX.	Results of Analysis of Variance Associated With Multiple Regression, As a Predictor of Concomitant Variables For an Analysis of Covariance . . . . .	40
X.	Analyses of Covariance of Job Satisfaction Scores Among Experimental Groups and Control Group . . . . .	42
XI.	Adjusted Means for Table X . . . . .	43
XII.	Analysis of Covariance of Job Satisfaction Scores Among Experimental Groups and Control Group . . . . .	45
XIII.	Adjusted Means for Table XII . . . . .	45
XIV.	Analysis of Covariance of Job Satisfaction Scores Among Experimental Groups and Control Group . . . . .	46
XV.	Adjusted Means for Table XIV . . . . .	47
XVI.	Graphic Presentation of Adjusted Means for Table XV . . . . .	50

## CHAPTER I

### THE NATURE OF THE PROBLEM

This dissertation reports an investigation of differences in job satisfaction scores, one year after training, between experimental and control groups of the 1964-1965 School Dropout Rehabilitation Project in Oklahoma City. To focus on the problem, this chapter presents a general overview of the Oklahoma City project, gives a general statement of the problem, presents a statement of hypotheses, and lists a series of operational definitions pertinent to the study.

#### General Background Information

The School Dropout Rehabilitation Project had its beginning in September, 1963, when the Manpower Development and Training Act of 1962, PL 87-415, funded a program for the rehabilitation of school dropouts in the Greater Oklahoma City Area. In August, 1964, a continuation of this type program was funded under the Manpower Development and Training Act of 1962, as amended, PL 88-214, with the Oklahoma City Public Schools continuing to act as the operating agent.

Under Title II, Part A, of the 1962 Act, as amended, Congress delegated the responsibility for selection of trainees, training allowances, and on-the-job training to the Secretary of Labor and authorized him to enter into agreements with the appropriate agency of each state for carrying out the functions of the Act. In Oklahoma, the Oklahoma

Employment Security Commission was the state office through which the Department of Labor carried out its responsibilities. Through its contract agent, the Oklahoma Employment Security Commission, the Department of Labor contributed some \$197,843 to the Oklahoma City project.

Under Title II, Part B, of the 1962 Act, as amended, Congress delegated the responsibility for program development and training to the Secretary of Health, Education and Welfare and authorized him to enter into agreements with appropriate state vocational educational agencies. In Oklahoma, the Oklahoma State Board for Vocational Education became the appropriate state level contracting agency. The Department of Health, Education and Welfare provided \$131,999 to the Oklahoma City project, with the funds being administered by the Oklahoma State Board for Vocational Education.

In connection with this program, the Oklahoma State University Research Foundation received in November, 1963, a \$185,000, three year grant which was later extended to September 1, 1967, from the Ford Foundation. This grant was in support of an experimental vocational and academic educational study of recent high school dropouts utilizing three experimental and two control groups. Formal initiation of the Ford Foundation project began in January, 1964, with the period of time from January, 1964, through July, 1964, being devoted primarily to planning for the actual initiation of the training program beginning in August, 1964. The training period, August, 1964 to June, 1965, was devoted to research and training, primarily to examine the extent to which vocational programs can be complemented functionally by academic programs. The remainder of the two-year grant was devoted to an extensive two-year follow-up of trainees participating in the 1964-1965

Oklahoma City project under the Manpower Development and Training Act of 1962, as amended.

In accordance with the general objectives of the Ford Foundation project, three experimental groups and two control groups were formed. The experimental groups consisted of, (1) the academic-vocational group (members who received a combination of vocational and academic training), (2) the vocational group (members who received vocational training only) and (3) the academic group (members who received academic training only). The control groups consisted of control group I (members who received no training), while later, a second control group, control group II was formed of those participants who had dropped from the three experimental groups and who had completed less than fifteen percent (15%) of their training.

A synopsis of the research design is presented in paradigm form in Appendix A. Chapter III will develop more fully both the Ford Foundation general design and the specific design for this study.

#### General Statement of the Problem

During the last thirty years a large amount of research has been conducted on the topic of job satisfaction, especially since Hoppock's Monograph on Job Satisfaction appeared in 1935. Leaders in industry, vocational guidance, social psychology and education have been especially interested in conducting research into the nature of job satisfaction.

In view of the assumption (derived from Chapter II) that worker attitudes are affected by both, (a) the work environment, and (b) the nature of the individual, job satisfaction as operationally defined

will deal with the following issue.

Are the participants in the experimental groups significantly more satisfied with their jobs than those in the control group when work situation variables (operationally defined as earnings and number of jobs held since training) and personal characteristic variables (operationally defined as pretest scores on IPAT Anxiety, California Test of Personality, Kuder Preference Record - Personal-Form A, Rural-Urban Orientation Inventory, Social Class Value Orientation, and General Aptitude Test Battery) are entered into a multiple regression analysis with certain variables held as concomitant in an analysis of covariance statistical design?

#### Statement of Hypotheses

To accomplish the investigative task, two questions were established to be tested and four null hypotheses have been formulated to investigate the differences in job satisfaction between the experimental and control groups.

The two questions were generated from the design (as presented in Chapter III) and seemed important enough to run appropriate statistical tests.

Question 1: Is there a statistically significant difference in job satisfaction scores between the three experimental groups and control group<sup>1</sup> before statistically "adjusting for" certain concomitant variables?

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<sup>1</sup>As is pointed out in Chapter III under "Basic Plan for the Study," the small number of subjects employed in Control I and II of the Ford Foundation project dictated combining these into one control group.

Question 2: Is there a statistically significant difference in job satisfaction scores between male and female subjects?

The four null hypotheses formulated to investigate the differences in job satisfaction between the experimental and control groups are:

Ho<sub>1</sub>: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation and personal characteristic variables are treated, each, as a concomitant variable in an analysis of covariance statistical design.

Ho<sub>2</sub>: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation variables are held as concomitant variables in an analysis of covariance statistical design.

Ho<sub>3</sub>: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain pretest personal characteristic scores are treated as concomitant variables in an analysis of covariance design.

Ho<sub>4</sub>: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation variables and pretest personal characteristic variables, combined, are treated as concomitant variables in an analysis of covariance statistical design.

## Operational Definitions

Operational definitions which seem peculiar to this study are as follows:

1. Job Satisfaction: as operationally defined in this study refers to the measured expression of an individual's affective orientation toward his job when asked to state the degree to which he likes or dislikes aspects of the present work role. The individual's job satisfaction is then inferred from his responses to the questions with positive responses associated with job satisfaction and negative responses associated with job dissatisfaction.

2. Job Satisfaction Scores: refers to the scores obtained from the Brayfield-Rothe Job Satisfaction Blank (Appendix C).

3. Dependent Variable: the posttest score of the Brayfield-Rothe Job Satisfaction Blank, (Appendix B).

4. Possible Concomitant Variables: the "X" variables entered into the multiple regression equation.

5. Concomitant Variables: the "X" variables to be "adjusted for" in the dependent variable in the analysis of covariance design.

6. The Oklahoma City Project: refers to the Manpower Development and Training Act program of the Greater Oklahoma City Area administered by the Oklahoma City Public Schools during the 1964-1965 school year.

7. Ford Foundation Project: refers specifically to the research and follow-up phases of the Oklahoma City Project, as sponsored by the Ford Foundation.

8. The Manpower Act: the Manpower Development and Training Act of 1962, as amended, PL 88-214.

9. Trainees: refers to all participants in the MDTA program of the Oklahoma City Project.

10. Experimental Groups: these include members undergoing retraining in the vocational, academic, and combination vocational-academic programs.

a. Academic-Vocational Group: members who received a combination of vocational and academic training.

b. Vocational Group: members who received vocational training only.

c. Academic Group: members who received academic training only.

11. Control Group: this group includes members who underwent no retraining and those who completed less than fifteen percent (15%) of the training program.

12. "Time I": refers to the early posttest group of the experimental and control groups.

13. Work Situation Variables: refers to the earnings and the number of jobs held.

14. Personal Characteristic Variables: refers to scores on file from the Ford Foundation project on such personal characteristics as: aptitude, personality measures, that is, vocational interest, personality, and anxiety, and social class value orientation and rural-urban orientation.

15. Wages: refers to the hourly wages of the subjects.

16. Abbreviations:

a. M D T A: Manpower Development and Training Act.

b. I P A T: IPAT Anxiety Scale Questionnaire, 1963 (4).

c. C T P: California Test of Personality, 1953 (25).

- d. S C V O: Social Class Value Orientation Inventory, 1964.
- e. R U O: Rural-Urban Orientation Inventory, 1964.
- f. G A T B: General Aptitude Test Battery, Form B-1002.
- g. K P R-P: Kuder Preference Record (Personal-Form A, 1963)  
(17).

## CHAPTER II

### THEORETICAL FRAMEWORK AND REVIEW OF SELECTED LITERATURE

The intent of this chapter is to present a theoretical framework for the study together with a review of selected literature.

From a review of the concept of job satisfaction, a number of studies were located under such titles as morale, job satisfaction, and employee attitudes. It became apparent that many competent investigators have arrived at conflicting and at times contradictory conclusions concerning the determinants and/or concomitants of job satisfaction.

In view of the several different conclusions concerning the relationships of elements in job satisfaction, it seems appropriate to review briefly; (1) some approaches often used in the study of job satisfaction, (2) some basic assumptions for this study, and (3) some general statements about job satisfaction.

#### Approaches to the Study of Job Satisfaction

Perhaps the two most common approaches to the study of job satisfaction have been first, the approach that attempts to determine the relationship of job satisfaction and work situation variables and second, the approach that attempts to determine the relationship of job satisfaction and personality variables. A third approach, which appears infrequently in the literature, is the approach which combines

the work situation variables and personality variables in a study of job satisfaction.

In looking more closely at each of these approaches, one observes that most job satisfaction studies reported in the literature have assumed that the environmental factors of the work situation have a significant and positive relationship with job satisfaction. Of these various situational variables, job performance (productivity or output) is the variable most often used and is usually accompanied by a linear correlation statistical model to analyze the data.

In their review of job satisfaction research, a number of writers have made similar observations concerning the job satisfaction and environmental approach design. Among these: Katzell, Barrett, and Parker (15), observe:

Previous research has typically involved relative simple designs in which characteristics of employees or the work environment have been correlated with job satisfaction or performance, or in which satisfaction and performance have been correlated.

Herzberg, Mausner, and Snyderman (11), on page 7, state:

Unfortunately, it is difficult to evaluate the bulk of this research, since it consists of correlational studies in which comparison is made between groups of high or low morale, high or low productivity, or high or low turnover....

Vroom (27), on page 159 comments:

An extremely large proportion of the studies cited in this chapter has been directed toward the establishment of a causal relation between some characteristic of work roles and job satisfaction. The underlying assumption is that there is a difference between the properties of the satisfying and a dissatisfying work role. Consequently, most of the studies have dealt with only two sets of variables, one a measure of job satisfaction.

In generalizing about correlational studies involving the job satisfaction and environmental approach, investigator comments tend to be negative in nature. Katzell (13), states: "It is clear that not

almost no research has been devoted to this area, although many writers had hypothesized that the personal characteristics of the worker would influence his perceptions of, and attitudes toward his job.

Vroom (27) on page 160, writes:

Although environmental factors have received the greatest amount of attention as determinants of job satisfaction, some investigators have focused their explanations on the personalities of workers. Persons who are satisfied with their jobs are assumed to differ systematically in their personalities from those who are dissatisfied.

Katzell (14), comments on page 342:

The intra-individual sources of job satisfaction may be accounted for largely in terms of the concept of adaptation levels or the related concept of personal values....In many instances, in order to predict a persons response to a stimulus, account must be taken of his frame of reference.

General comments from various investigations into the job satisfaction and personality approach tend to have a positive tone.

Schaffer (21) in his work relating job satisfaction to need satisfaction states: "The most accurate prediction of over-all job satisfaction can be made from the measure of the extent to which each person's strongest two or three needs are satisfied." Woodsworth (29), in his study of job satisfaction and personality writes: "The conclusions were, in effect, that personality characteristics are related to job attitudes in significant and meaningful ways." Vroom (27), on page 161 again observes:

There has been little attempt to deal with the relationship between personality variables and job satisfaction in theoretical terms and most of the empirical work represents an effort to establish a relationship between measures of adjustment or neuroticism and job satisfaction.

Herzberg, et al (12), on page 20, summarizes the results of their extensive review of job satisfaction-dissatisfaction and personality in this manner:

The satisfied worker is, in general, a more flexible, better adjusted

person who has come from a superior family environment, or who has the capacity to overcome the effects of an inferior environment. He is realistic about his own situation and about his goals. The worker dissatisfied with his job, is in contrast, often rigid, inflexible, unrealistic, in his choice of goals, unable to overcome environmental obstacles, generally unhappy and dissatisfied. It must be emphasized that not all workers with these psychological characteristics are dissatisfied with their jobs. The data do show that workers dissatisfied with their jobs often show these characteristics.

Finally, in considering the third approach to the study of job satisfaction, that is, a combination of the work situation variables and the individual personality variables, one finds indications that this approach may likely be used as the basic design for job satisfaction studies in the future. Therefore, to focus on this third approach, statements from Vroom, Herzberg, et al and Friedlander seem appropriate: Vroom (27) on page 173 suggests:

Very few investigators have attempted to deal with differences among work roles and among individuals in the same study. However, the results of those studies in which this has been done are promising and indicate the fruitfulness of this approach.

Herzberg, et al (12), on page 17 states:

Job attitudes, including morale and job satisfaction, are critical aspects of the adjustment pattern of the worker. They are a part of his total adjustment to living, and this is basically a function both of his environment and of his personality.

Further, Friedlander (10), in his discussion of underlying sources of job satisfaction states: "Both intrinsic and extrinsic job factors were found as sources of job satisfaction."

#### Assumptions Basic to the Study

To this point the discussion has been limited to some of the general approaches used in various studies of job satisfaction. However, in reviewing selected literature concerning job satisfaction studies, there seem to be three basic assumptions with which this study must

concern itself. These assumptions are: (1) worker attitudes are affected by both the work environment and the nature of the individual, (2) job satisfaction is an attitude of an individual toward his job, and (3) job satisfaction is to be viewed as a summated or "over-all" concept.

The assumption that worker attitudes are affected by both the work environment and the nature of the individual is derived from the previously discussed section dealing with general approaches to the study of job satisfaction. However, as noted earlier, a close look at most of these studies reveal that neither situational variables nor the personality variables alone are sufficient to yield consistent significant explanations of job satisfaction. Vroom (27), crystallizes this point of view on page 164:

At present there is considerable evidence that the prediction of job satisfaction can be improved by considering individual differences in motivational variables as well as differences in the nature of the work role.

The second assumption is that a measure of job satisfaction can be inferred from an individual's attitude toward his job. Sherif and Sherif (23), on page 490, in discussing the concept of social attitudes gives one an operational framework from which to proceed:

Attitudes are formed in relation to situations, persons or groups with which the individual comes into contact in the course of his development. Once formed, they determine that the individual react in a characteristic way to these or related situations, persons, or groups. This characteristic feature, which is inferred from behavior (verbal or nonverbal), denotes a functional state of readiness in relation to stimulus situations which elicit it.

Brayfield and Rothe (1), state:

An attitude scale elicits an expression of feeling toward an object. It may be used directly with an individual to obtain such an expression. It permits quantification of the expression of feeling. These characteristics suggest the utility of attitude scaling methodology

in developing an index of job satisfaction.

Vroom (27), suggests on page 100:

Job satisfaction, job attitudes, and morale are typically measured by means of interviews or questionnaires in which workers are asked to state the degree to which they like or dislike various aspects of their work roles. The degree to which a person is satisfied with his job is inferred from his verbal responses to one or more questions about how he feels.

The third assumption of this study deals with the issue of the evaluation of job satisfaction. Namely, is job satisfaction to be treated as a summated or "over-all" concept? Several writers have considered this issue in their writings, among these, Vroom (27) again states on page 104.

At present there appear to be conditions under which both general and specific satisfaction measures are useful...we will find that most studies dealing with the determinants of job satisfaction use specific measures, whereas those dealing with the relationship of job satisfaction to job behavior tend to use more general measures....there is yet no convincing empirical evidence that the relationship between specific measures any behavioral indices such as absences, turnover, or performance will be and different from that obtained through the use of general measures of comparable reliability.

Newcomb, Turner and Converse (19), comment on page 56:

The choice whether to explore components of a general attitude or to measure the individual's natural summation of affect toward the general object depends a great deal on the research questions at hand. Except where dissociation is prevalent, however, it is often useful to deal in attitudes toward fairly generalized objects. This is true in part because more inclusive attitudes have relevance to a wider range of behaviors. Sharply mixed attitudes...turn up less frequently than one might suppose.

Further, the very nature and method of construction of the instrument used in this study treats job satisfaction as a summated rating or a general concept. The Brayfield-Rothe Job Satisfaction Blank was first constructed on the Thurston attitude scaling technique. To refine the scoring and make the instrument more applicable to a wide range of attitudes, the Likert technique was applied to the

instrument by Brayfield and Rothe. Briefly, the Likert scale attempts to locate individuals on a positive-negative attitude continuum. The technique requires the individual to indicate the direction and degree of affect he feels concerning an object, event, or state of affairs, with the responses being made on a five point continuum. The Likert scale assumes that some method of combining or summing up of an individual's responses would provide a reliable indication of the individual's generalized attitude toward a state of affairs.

For further consideration, a more specific and detailed description of the scale construction of The Brayfield-Rothe Job Satisfaction Blank is presented in Chapter III.

#### Generalizations About Job Satisfaction

From the large number of job satisfaction studies reviewed by Brayfield and Crockett (2), Herzberg, et al (12), and Vroom (27), one is able to draw several generalizations about job satisfaction.

1. Most of the statistical procedures used in the various studies have usually been restricted to percentages and linear correlation analysis. Some factor analysis and a few studies using a regression analysis have appeared during the past few years.

2. A large majority of the studies involving job satisfaction and the work situation (in particular job performance), show correlations ranging from low negative to zero to low positive. However, those which do show a significant correlational difference from zero can usually account for only a small portion of the variance associated with the criterion measures.

3. Correlational studies suggest that the effect of wages on job

satisfaction is usually moderate, on the other hand, studies of job dissatisfaction usually show wages to be the prime factor involved in job dissatisfaction. However, some reviews suggest that the fairness or unfairness of the individual's rate of pay may have more effect on his job satisfaction or dissatisfaction than does the amount of money earned.

4. Many of the studies involving job satisfaction and worker personality variables tend to yield low to moderate correlations. Again, these usually can account for only a small portion of the variance involved in the criterion measures.

5. Reviews suggest that the person dissatisfied with his job tends to relive in his work the hostility and resentment of parental authority, sibling rivalry, and school authority.

6. From the few studies relating job satisfaction to social class values, indications are that attitudes of people toward their jobs are often a part of a commonly held value system of their social class and not of the individual.

7. The relationship between job satisfaction and intelligence test scores is inconclusive. However, the reviews suggest that the attitudes of workers with high intelligence scores are much more polarized than workers with low intelligence scores.

## CHAPTER III

### RESEARCH DESIGN AND METHODOLOGY

The expressed purpose of this chapter is to present: (1) the general design of the Ford Foundation Project, (2) the specific design for this study, and (3) the methodological procedures used in the form of instrumentation, collection of data and statistical treatment of the data.

#### General Design of the Ford Foundation Project

The basic plan for the Ford Foundation Project was a pretest-posttest with control group design. To reiterate, the design included a comparison between five groups of subjects, that is, three experimental and two control groups. One experimental group was assigned a combination of vocational and academic training, the second experimental group was assigned only vocational training, and the third experimental group was assigned only academic training. The original control group was assigned no training, while a second control group was formed of those students who started the program, but dropped before completing a significant portion of training (designated as 15%).

The initial selection and assignment of participants to groups were made by the staff of the Oklahoma Employment Security Commission. Basically, there were two sets of criteria to be met before individual assignments were made. First, as spelled out in the Manpower Act, all subjects

were to be school dropouts (ages 17-22) who were unemployed or under-employed, and out of school one year or longer. Second, those meeting the initial criteria for selection, were further screened for program assignment, based upon an interest checklist, an aptitude test, and an individual interview by an employment service counselor. Those candidates who achieved scores on the tests which indicated a reasonable chance for success and who had no severe physical deficiencies, were selected as qualified to participate in the program.

From this "pool" of qualified subjects, assignments were made by the Oklahoma Employment Security Commission to one of nine skill areas in the academic-vocational group and the vocational group, along with assignments to the academic group and to the original control group.

As Twyman, Hornbostel, and Egermeier (26) have stated:

The initial plan of the project was that from sets of youth who were eligible for the several types of training offered, each would be assigned at random to one of the experimental or control groups. Since this was a public program, strict adherence to the desired procedure could not be maintained. Therefore, the research team decided to pre-test on as many of the potentially influential variables as possible so that this information would be available for statistical analyses.....

Table I presents the number of assignments made to each group. Also each of the subjects in Table I, along with the second control group, were administered both a pretest and posttest on the following instruments: (1) Sequential Tests of Educational Progress, Form 3, (2) California Test of Personality, (3) IPAT Anxiety Scale Questionnaire, (4) Social Class Value Orientation Inventory, (5) Rural-Urban Orientation Inventory, (6) Kuder Preference Record-Personal.

However, for posttest purposes, the differing completion dates for subjects in vocational training made it necessary to divide all groups into two units. These units were designated as "Time I" and "Time II"

(early and late posttest) depending on posttest completion dates. The "Time I" unit completed posttest on January 7, 1965, while the "Time II" unit completed posttests on May 6, 1965. For comparative purposes, "Time I" and "Time II" units were treated separately in all analyses.

TABLE I

SUBJECTS SELECTED BY THE OKLAHOMA EMPLOYMENT SECURITY  
COMMISSION FOR INCLUSION IN THE PROJECT

<u>Skill Training Area</u>	<u>Academic-Vocational Group</u>	<u>Vocational Group</u>	<u>Academic Group</u>	<u>Control Group</u>
General Office Clerk, Refresher	21	9		
Machine Tool Operator	11	11		
Stenographer, Refresher	23	11		
Welder, Combination	8	15		
Office Machine Mechanic	12	9		
Sheet Metal	9	12		
Cosmetology, Negro	13	13		
Cosmetology, White	12	18		
Auto Mechanics	<u>9</u>	<u>17</u>		
Total Subjects	118	115	59	46

The division into "Time I" and "Time II" units facilitated the posttesting and also helped give direction to the two year longitudinal follow-up after training. The collection of follow-up data involved four contacts at six-month intervals following completion of the program by each group. At each of these four contact periods, the Youth Opportunity Follow-Up Survey (Appendix B) was completed by each available subject. The survey was completed, whenever possible, by a school

counselor from the Greater Oklahoma City Area, in a face-to-face interview situation, usually at the subject's place of residence. The follow-up instrument was so devised that subjects who were no longer residing in the Oklahoma City area could complete the survey by mail. Table II presents the subjects used in the follow-up study as well as those to be included in all final analyses.

TABLE II  
STUDENTS INCLUDED IN ANALYSES

Group	Time I (Early Posttest)	Time II (Late Posttest)
Academic-Vocational	56	18
Vocational	42	13
Academic	19	15
Control Group I	15	12
Control Group II	13	14
Total	145	72

In the process of helping to develop the Youth Opportunity Follow-Up Survey instrument, this writer became interested in the concept of job satisfaction, which then led to an examination of the issues involved in the concept. With the selection of job satisfaction as a dissertation topic, the Brayfield-Rothe Job Satisfaction Blank was chosen as the instrument to be used in the dissertation and was included as an appendix to the follow-up survey.

Later, on November 18, 1965, this writer submitted a request for a grant in support of a doctoral dissertation to the U. S. Department of

Labor. Under the provisions of the Manpower Development and Training Act, Title I, PL 87-415, as amended, the grant (Grant No. 91-38-66-12), was approved on February 16, 1966, and funded effective March 15, 1966, with a terminating date of August 15, 1966.

Although this dissertation has a direct relationship to the Ford Foundation study, it is in itself distinct and separate, in that it was not a part of the original plan. Because of relationships with the Ford Foundation study, portions of the dissertation design are, in a sense, predetermined by the research design of the Ford Foundation project.

#### Basic Plan for the Study

The sample population for this study is presented in Table III and is limited to the employed "Time I" posttest subjects in the three experimental and two control groups of the Ford Foundation study. For this study the "Time I" subjects include the skill training areas of general office clerk, machine tool operator, office machine repair, sheet metal, stenography, and welding. Each of the skill areas presented in Table III included a number of students from both the academic-vocational group and the vocational group. About one-half of the academic and one-half of both control groups are also included.

As mentioned in Chapter I, the design includes, first, a comparison of job satisfaction mean scores of the three experimental groups and the two control groups\* when certain work situation and personal

---

\* Because of the small number of employed subjects in each of the control groups, the two control groups will be treated as a single control group.

characteristics are statistically adjusted for in an analysis of covariance design.

TABLE III  
STUDENTS PARTICIPATING IN THE STUDY

Skill Area	Total Number of Students	Number of Students	
		Academic-Vocational Group	Vocational Group
Stenography	20	13	7
General Office Clerk	24	19	5
Machine Tool	15	9	6
Office Machine	15	7	8
Welding	17	6	11
Sheet Metal	6	3	3
	<u>97</u>	<u>          </u>	<u>          </u>
Academic Group	19 (7) <sup>a</sup>		
Control Group	<u>28</u> (8) <sup>a</sup>	<u>          </u>	<u>          </u>
Totals	144	57 (26) <sup>a</sup>	40 (14) <sup>a</sup>

<sup>a</sup>Indicates the number employed from each of the three experimental groups and the control group. Each of the employed subjects were administered the Brayfield-Rothe Job Satisfaction Blank and are included as the total population for this study.

The basic design for this study is a posttest-only, control group design similar in nature to design 6, page 195, in Campbell and Stanley's (3) discussion of experimental and quasi-experimental designs. Basically, the design is an ex post facto (or quasi-experimental) design in nature and conforms to Kerlinger's (16), definition on page 360: Ex post facto research may be defined as that research in which the

independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables. He then studies the independent variables in retrospect for their possible relations to, and effects on, the dependent variable or variables.

This writer is aware that an ex post facto design is, theoretically, less scientific than the true experimental design. Perhaps the greatest possibility of bias introduced into the ex post facto design is the risk of improper interpretation due to the inability to manipulate the independent variables. However, Kerlinger (16) on page 372, in speaking of the value of ex post facto designs to education comments: Despite its weakness, much ex post facto research must be done in psychology, sociology, and education simply because many research problems in the social sciences and education do not lend themselves to experimental inquiry.

With the limitations of ex post facto research in mind, the design paradigm, as presented in Table IV, partitions out the several variables into three sets (or groups). These sets are presented as dependent, independent and possible concomitant variables.

In considering these three sets of variables, one finds that two of the sets, the independent-dependent dichotomy, are actually descriptions or classifications of the uses of variables rather than a classification between different kinds of variables. Kerlinger (16) clarifies this point when he states on page 30:

The dependent variable, of course, is the variable predicted to, whereas the independent variable is predicted from.....The dependent variable is ordinarily the condition we are trying to explain, especially in educational research.

The third set of variables, the possible concomitant variables, are of special significance to an ex post facto design. Ferguson (8) on pages 326-327, suggests this when he states:

One object of experimental design is to ensure that the results

observed may be attributed within limits of error to the treatment variable and to no other causal circumstance. For example, the assignment of subjects to groups at random and the matching of subjects are experimental procedures the purpose of which is to ensure freedom from bias. Situations arise, however, where one or more variables are uncontrolled because of practical limitations associated with the conduct of the experiment. A statistical, rather than an experimental, method may be used to "control" or "adjust" for the effects of one or more uncontrolled variables, and permit, thereby, a valid evaluation of the outcome of the experiment. The analysis of covariance is such a method.

In psychology and education primary interest in the analysis of covariance rests in its use as a procedure for the statistical control of an uncontrolled variable.

TABLE IV

POSTTEST ONLY-CONTROL GROUP RESEARCH PARADIGM WITH AN  
ANALYSIS OF COVARIANCE STATISTICAL TREATMENT

Possible Concomitant Variables	(Treatment Groups-Independent Variables)			
	Academic-Vocational Group	Vocational Group	Academic Group	Control Group
$X_1$				
$X_2$				
$X_3$				
$X_4$				Y = Dependent Variable
.				
.				
.				
$X_k$				

Table IV indicates that the dependent variable ("Y" variable) is the job satisfaction score, the independent variables are the treatment groups of the Ford Foundation project. The possible concomitant

variables ("X" variables) as the work situation and personal characteristic variable scores to be entered into a multiple regression analysis as previously mentioned in Chapter I.

### Methodology

This section deals, in some detail, with the instruments of measurement, the collection of data, and the statistical treatment of the data.

#### Instruments of Measurement

In considering the measurement of the dependent variable, job satisfaction, the literature suggested that three instruments approach "adequate" standardization for use in evaluating attitudes of an individual toward his job. These instruments are the Brayfield-Rothe Job Satisfaction Blank, the Kerr, Job Satisfaction Tear Ballot, and the recently developed Job Description Index, from the Cornell studies of job satisfaction. In discussing the measurement of job satisfaction, Vroom (27) states on page 100:

Unfortunately, there has been little standardization of job satisfaction measures.....Most investigators "tailor make" an instrument for the particular population they are studying. There are exceptions to this such as the Brayfield-Rothe job satisfaction scale.

Although the other two scales previously mentioned are available, the Brayfield-Rothe Blank was chosen for its ease in administration, quickness in scoring, its shortness, its applicability to a wide variety of jobs, and its attributed sensitivity to variations in attitude.

As mentioned in Chapter II, job satisfaction instruments are generally based on attitude scaling theory. The basic assumption of a

job satisfaction scale is that job satisfaction may be inferred from the individual's attitude toward his work, in that the questions in the scale tend to elicit responses pertaining to an individual's attitude in terms of his awareness. Further, the Brayfield-Rothe Blank is somewhat unique in the field of attitude scaling in that it has combined two of the strongest direct attitude scaling techniques, the Thurstone and the Likert scaling techniques.

The Brayfield-Rothe Job Satisfaction Blank:

In discussing the construction of their job satisfaction index, Brayfield and Rothe (1), relate the following:

The construction of this scale was made a class project in Personnel Psychology...at the University of Minnesota.... Approximately 1,000 statements were turned in by the class and an additional 75 by the investigators. This collection was edited and the resulting 246 statements were mimeographed, sorted into sets, and distributed.....for judging. Each judge sorted the statements under supervision according to the instructions suggested by Thurstone. After tabulating the results the scale and the Q values for each statement were determined graphically.

Four specific criteria determined the inclusion or exclusion of items for the preliminary scale. First, it was desired to have items covering the entire range of the attitude continuum at approximately .5 step intervals although the statements at the ends of the continuum were eliminated as being too extreme to be practical. Second, the Q value, which is based on the degree of uniformity in the sorting of statements, was used as an objective measure of ambiguity in accordance with Thurstone's recommendations. Consequently no item was selected which had a Q value of 2.00 or above. Third, from a purely subjective appraisal by the investigators, items were judged as to specificity. Items referring to specific aspects of a job were eliminated since an "over-all" attitudinal factor was desired; thus items regarding pay, working conditions, etc., were eliminated even though it might be argued that they reflect a general attitude. Finally, acceptability to employees and management as judged by the investigators and management representatives was a criterion.....

Next a preliminary scale containing eighteen selected statements was administered to 10 employed female office workers and a rank order correlation was computed for the odd versus even items paired according to Thurstone's directions. The resulting rho was .31 which was converted to an estimated product moment r and boosted by the Spearman-Brown formula to .48.

This finding indicated a shift in method. Since Likert had found that his method of scoring attitude scales gave a higher reliability than Thurstone's, his scoring technique was adopted and a second experimental scale was developed.

.....The Likert scoring system consisting of five categories of agreement-disagreement was applied to each item. From the Thurstone scale value it was known in what direction to apply the new scoring method so that a low total score would represent the dissatisfied end of the scale and a high total score the satisfied end. The items were selected so that the satisfied end of the scale was indicated by Strongly Agree and Agree for one-half the items and by Strongly Disagree and Disagree for the other half. The neutral response was Undecided. The Likert scoring weights for each item ranged from 1 to 5 and the range of possible total scores now became 18 to 90 with the undecided or neutral point at 54.

The new scale was administered.....and a rank order correlation computed for the odd versus even items. The resulting rho of .61 was converted to an estimated product moment  $r$  and boosted by the Spearman-Brown formula to .77.

There were four studies located in the literature reporting reliability and validity data on the Brayfield-Rothe Job Satisfaction Blank.

Brayfield and Rothe (1), report an odd-even product moment reliability of .77 corrected to .87 by the Spearman-Brown formula on 231 women office employees. Also reported was a product moment correlation of .92 between the Brayfield-Rothe Blank and the Hoppock Job Satisfaction Blank, with a group of 91 students in a personnel class.

Brayfield and Crockett (2), in their review of literature, list two studies in which the Brayfield-Rothe Blank was used. In 1950, Brayfield and Margelsdorf obtained data on 55 plumber apprentices. The corrected split-half reliability coefficient was .83. In 1953, Brayfield and Marsh measured the job satisfaction of a group of farmers in a veteran's on the job training program. The corrected split-half reliability coefficient was .60.

Recently, Schletzer (22), reported on a study using the Strong Vocational Inventory Blank as a predictor of job satisfaction, with

six professional groups of men. Three measures of job satisfaction were used, the Hoppock Blank, Brayfield-Rothe Blank and the new Job Dimensions Inventory. Correlations were obtained yielding a .83 validity correlation between the Brayfield-Rothe Blank and the Hoppock Blank and a .67 validity correlation between the Brayfield-Rothe Blank and Job Dimensions Inventory. Table V presents these coefficients in table form.

TABLE V

BRAYFIELD-ROTHE JOB SATISFACTION BLANK, TABLE OF  
RELIABILITY AND VALIDITY COEFFICIENTS

Author	Correlation Procedure Used	N	Reliability Coefficient	Validity Coefficient
Brayfield-Rothe	Corrected Split-half	231	.87	
	<sup>a</sup> B/R and Hoppock Blank	91		.92
Brayfield-Mangelsdorf	Corrected Split-half	55	.83	
Brayfield-Marsh	Corrected Split-half	50	.60	
Schletzer	B/R and Hoppock Blank	185		.83
	B/R and Job Dimensions Inventory	185		.67

<sup>a</sup>B/R indicates the Brayfield-Rothe Job Satisfaction Blank.

Among the possible concomitant variables included in this study are five instruments, selected as a measure of personal and environmental

characteristics by the staff of the Ford Foundation project. These data include all available scores obtained at the interval level of measurement which are on file and which deal with personal and environmental characteristics.

The General Aptitude Test Battery, Form B-1002 was administered as pretest only by the Oklahoma Employment Security Commission. The GATB consists of twelve tests which are combined to measure the following factors: general intelligence, verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical perception, motor coordination, finger dexterity, and manual dexterity. Reliability based on test-retest data furnished by the U. S. Department of Labor yields a .80 coefficient for intelligence, verbal aptitude, numerical aptitude, and spatial aptitude, with a .70 coefficient for clerical perception, form perception, motor coordination and manual dexterity, and a .60 coefficient for finger dexterity.

However, since the GATB general intelligence score is basically a multiple of the verbal, numerical and spatial sub-test scores, this study will use only the sub-test scores as possible concomitant variables.

The Kuder Preference Record, Personal-Form A, test consists of 168 items of the forced choice trial type in which the subject makes a choice of the answer most liked or least liked. The instrument is composed of five scales considered to be independent and non-additive. These are: preference for being active in groups, preference for familiar and stable situations, preference for working with ideas, preference for avoiding conflict, and preference for directing others.

The literature indicates little evidence of reliability or of

validity data. Two test reviews of the Kuder are summarized as follows:

Clendenen (5), states:

In summary, it is the feeling of this reviewer that the Kuder Personal has been carefully developed and could fulfill a need for an instrument which is neither a vocational interest inventory nor a personality inventory, but which is related to both. However, in spite of 15 years of use the test still has limited data reported.

Layton (18), states his position in this manner:

Thus, the KPR-P manual presents only meager evidence supporting the definition of five preference constructs. But the great deficiency of the Kuder procedure is the ill-considered attempt to combine ipsative and normative approaches to psychological measurement.

However, on the strength of the authors comments in the test manual concerning the relationship of the Kuder and job satisfaction measures, these file data scores were included in the study.

The California Test of Personality, Form AA, Secondary Level, yields a total adjustment score which is derived by the addition of scores for the two major sections of the test, "personal adjustment" and "social adjustment". The personal adjustment section is based on feelings of personal security and incorporates six component parts: self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, withdrawing tendencies, and nervous symptoms. The social adjustment section is based on feelings of social security with component parts of: social standards, social skills, anti-social tendencies, family relations, school relations, and community relations.

The manual of the California Test of Personality quotes test reliability ranging from .70 to .97. The authors defend the validity of the instrument on the grounds of success achieved with it by other investigators. Reviews of the test indicate that, in general, the test is regarded favorably in its field, but that it suffers from the same

limitations as do other inventories which purport to measure similar kinds of personality variables. The major criticism is lack of established validity. In discussing this issue of validity, Sims (24), states:

In spite of the limitations, however, the additional evidence on validity reported or referred to in the manual not only answers some of the earlier criticisms but convinces this reviewer that as a measure of self-concept in the, as of now, vaguely defined area called adjustment, this test is as valid as most such instruments.

The IPAT Anxiety Scale Questionnaire, is a 40 item inventory yielding five factors which tend to group together as anxiety components from extensive factor analysis studies. These are: self-sentiment development, ego strength, protension or paranoid trend, guilt proneness, and ergic tension. Questions from each of these five components group themselves into sub-test categories, namely, covert or hidden anxiety and overt or symptomatic anxiety. Further, the test yields a total anxiety scale score. Reliability of the instrument ranges from .80 to .93 while the construct validity ranges from .85 to .90 and the external validity ranges from .60 to .70. Cohen (6), suggests in his review:

The IPAT Anxiety Scales impressive systematic research background commends it for use as an overall measure. No competing test can compete in this crucial regard. For a quick measure of anxiety level in literate adolescents and adults for screening purposes, it has no peer.

The Rural-Urban Orientation Inventory and the Social Class Value Orientation Inventory are experimental instruments, authored by Solomon Sutker, Ph.D., Professor of Sociology, Oklahoma State University. These instruments are still in the process of validation under a contract from the Oklahoma State University Research Foundation.

The Rural-Urban Orientation Inventory yields a total score from responses to ten pairs of value or opinion statements. The instrument

was constructed from three dimensions which yield three sub-total scores. These dimensions are: individual autonomy over actions and time-use (less need versus more need), moral attributes in man's work or nature (neutrality versus nature superior to man's work), and distinctive city characteristics of social density, distance, heterogeneity, institutional variety and richness (acceptance versus resistance or acceptance of rural counterparts.).

The Social Class Value Orientation Inventory yields a total score from responses to 33 pairs of value statements. The responses reflect either middle-class or lower-class orientation. The inventory was constructed on four dimensions, each yielding a sub-total score. These dimensions are: time orientation (future time--middle class versus present time--lower class), control of destiny (planning and effort--middle class versus fatalism--lower class), presentation of self (controlled and socially conscious--middle class versus uncontrolled and unconcerned--lower class), and social world (non-familistic--middle class versus familistic--lower class).

The possible concomitant variables of wages and number of jobs held are derived from information obtained from the Youth Opportunity Follow-Up Survey. The wage data was based on the hourly rate of pay on the present job, while the number of jobs held included those held one year after training. Both of these variables were treated as interval data.

#### Data Collection

The collection of data for this study was in conjunction with the Ford Foundation project. To reiterate, the data were collected in separate contact periods, at six-month intervals, following completion

of training. Data for all skill groups involved in this study (Table III) were collected one year after training. Since the length of training varied among groups, the data collection was spread over several months. The data for the "Time I" academic group were collected in relation to a May 30, 1965, completion date. The control group data were collected in a somewhat different manner, that is, since this group received no training, the one year date for the follow-up was taken from the "Time I" posttest date of January 7, 1965. Table IV presents the month that the data were collected for each of the skill areas and groups involved in this study.

TABLE VI

## COLLECTION OF DATA

Skill Area/Group	Month of Follow-Up (1966)
General Office Clerk	January
Stenographers	February
Welding	February
Machine Tool Operators	February
Control Group	March
Academic Group	April
Office Machine	May
Sheetmetal	May

## Statistical Procedures

The purpose of this section is twofold: first, to present the two

primary statistical procedures used and their relationships to the statement of hypotheses, and second, to introduce the statistical procedures that were employed in answering two questions generated by the research design.

Procedure 1: Due to the small size of some of the treatment groups (Table III), a statistical procedure was required to deal with the issue: what statistical procedure is most appropriate to identify scores to be used as concomitant variables in an analysis of covariance? This procedure was also the technique used in the Ford Foundation project (26). The procedure is used to initially estimate the impact of possible concomitant variables on the dependent variable by multiple regression. The computer program calculates the reduction in the sums of squares due to each variable after adjusting for all the other variables. The program's output includes the F value for the adjusted sum of squares for each variable and a multiple correlation coefficient.

Procedure 2: The four null hypotheses stated in Chapter I were tested by a multiple analysis of covariance statistical procedure (7). Due to the fact that the analysis of covariance can take no more concomitant variables ("X" variables) than there are numbers in the smallest group being analyzed for treatment means, the six variables selected from procedure 1, plus one category for the "mean", were entered in the analysis of covariance. It is noted that the smallest group encountered was the academic group, with an "n" of seven. Therefore the six salient variables plus the "mean" does not violate the previously mentioned rule and the analysis of covariance statistical design may be used with some confidence.

Basically, the multiple analysis of covariance is a combination of

the analysis of variance and multiple regression. This method forms the sums of squares and cross products matrix, inverts the matrix, obtains estimates of the parameters involved, calculates the reduction due to the mean, the reduction in the sums of squares due to each dependent variable, computes error sum of squares, mean squares (variance estimate),  $F$  values, and the adjusted means for each group.

This method allows one to draw conclusions about the treatment effect after "adjusting for" variables which affect the observation.

The statistical procedure used to answer question 1, that is; "Is there a statistically significant difference in job satisfaction scores between the three experimental groups and the control group before statistically adjusting for certain concomitant variables?", was a single classification analysis of variance (28).

The statistical procedure used to answer question 2, that is; "Is there a statistically significant difference in job satisfaction scores between male and female subjects?", was a  $t$  test (28) for two means, with unequal groups.

The equations for these statistical procedures are presented in Appendix D.

## Chapter IV

### PRESENTATION AND ANALYSIS OF THE DATA

The primary objective of this chapter is to determine if significant differences in job satisfaction mean scores occur among the experimental groups and the control group when certain work situation and personal characteristic variables are statistically adjusted for in a multivariate analysis. A secondary objective is to answer the research questions generated by the design.

Findings of the present investigation are reported under two headings; first, analysis of data related to questions generated by the design; and second, analysis of data relating to the testing of hypotheses. A discussion of the findings and recommendations based on the findings will be presented in Chapter V.

#### Testing of Questions Generated by the Design

To determine if significant differences exist in job satisfaction mean scores among groups and between male and female subjects, tests of significance were made using the analysis of variance and  $t$  tests. Also included in this section are the results of the multiple regression analysis.

Question 1: Is there a statistically significant difference in job satisfaction scores between the three experimental groups and the control group before statistically adjusting for certain concomitant

variables?

TABLE VII  
ANALYSIS OF VARIANCE OF JOB SATISFACTION SCORES  
AMONG EXPERIMENTAL GROUPS AND CONTROL GROUP

Source of Variation	df	Sum of Squares	Variance Estimate
Between	3	316.3461	105.4487
Within	51	2729.6539	53.5266
Total	54	3046.0000	

$$F_{3,52} = \frac{105.4487}{53.5266} = 1.9701 \quad .10 < p < .25$$

From Table VII, the obtained  $F$  value is shown as 1.9701. The required value for significance at the .05 level was 2.79. From this  $F$  test a conclusion may be made that no significant differences exist in job satisfaction prior to statistically adjusting for certain work situation and personal characteristic variables.

TABLE VIII  
THE  $t$  VALUES OF JOB SATISFACTION SCORES BETWEEN  
MALE AND FEMALE SUBJECTS

Source of Variation	N	Job Satisfaction Scores		
		$\Sigma X$	$\bar{X}$	$\Sigma X^2$
Female	32	2143	66.9687	145,363
Male	23	1492	64.8695	98,034

$$t = 1.0469 \quad .30 < p < .40$$

Question 2: Is there a statistically significant difference in job satisfaction scores between male and female subjects?

As shown in Table VIII, the obtained  $t$  value was 1.0469 with the required value for significance at the .05 level at 2.055. On the basis of these values, it was concluded that significant differences did not exist between the male and female subjects for job satisfaction.

As noted in Chapter III, an analysis of variance associated with multiple regression was employed to determine the concomitant variables entered into the analysis of covariance.

The first regression analysis was made to determine which of the 40 work situation and personal characteristic variables were potential predictors of the variance associated with job satisfaction. It was decided, arbitrarily, to hold for further analysis those variables on which the  $F$  value on adjusted scores was 1.00 or higher.

A second regression analysis was made of the 12 variables that were retained as a result of the first step. As was pointed out earlier in Chapter III, the concomitant variables were restricted to six in number, due to the small number of employed persons in the academic group. An arbitrary decision was again made to include the five most salient variables from the regression analysis plus the variable, wages. Table IX reports the results of this second analysis.

As noted from Table IX, the five most salient variables were: RUO-II, moral attributes in man's work or nature; CTP-1c, sense of personal freedom; GATB-N, numerical; SCVO-II, control of destiny; and CTP-2b, social skills. It is further noted that the first four variables mentioned were significant at greater than the .01 level while the fifth variable approached significance at the .05 level. (To be significant

TABLE IX

RESULTS OF ANALYSIS OF VARIANCE ASSOCIATED WITH MULTIPLE REGRESSION,  
AS A PREDICTOR OF CONCOMITANT VARIABLES  
FOR AN ANALYSIS OF COVARIANCE

Sources of Variation	<u>df</u>	Adjusted Sum of Squares	Variance Estimate	<u>F</u>	<u>p</u>
Job Satisfaction					
Total	54	3046.0000			
Regression Variables					
X <sub>1</sub> :	1	277.0983	277.0983	8.3777	.005 < p < .01
X <sub>2</sub> :	1	76.3209	76.3209	2.3074	.10 < p < .25
X <sub>3</sub> :	1	89.6005	89.6005	2.7089	.10 < p < .25
X <sub>4</sub> :	1	53.5674	53.5674	1.6195	.10 < p < .25
X <sub>5</sub> :	1	43.2706	43.2706	1.3082	.25 < p < .50
X <sub>6</sub> :	1	8.8455	8.8455	.2674	.50 < p < .75
X <sub>7</sub> :	1	312.1569	312.1569	9.4376	.001 < p < .005
X <sub>8</sub> :	1	6.8774	6.8774	.2079	.50 < p < .75
X <sub>9</sub> :	1	9.1145	9.1145	.2755	.50 < p < .75
X <sub>10</sub> :	1	124.3939	124.3939	3.7608	.05 < p < .10
X <sub>11</sub> :	1	448.2865	448.2865	13.5533	.0005 < p < .001
X <sub>12</sub> :	1	265.8064	265.8064	8.0363	.005 < p < .01
Within Error	42	1389.1758	33.0756		

Possible concomitant variables are; X<sub>1</sub>: GATB numerical, X<sub>2</sub>: GATB form perception, X<sub>3</sub>: GATB motor coordination, X<sub>4</sub>: GATB finger<sup>2</sup>dexterity, X<sub>5</sub>: Wages, X<sub>6</sub>: CTP-1b sense of personal worth, X<sub>7</sub>: CTP-1c sense of personal freedom, X<sub>8</sub>: CTP-1d feeling of belonging, X<sub>9</sub>: CTP-2a social standards, X<sub>10</sub>: CTP-2b social skills, X<sub>11</sub>: RUO-II moral attributes in man's work of nature, X<sub>12</sub>: SCVO-II control of destiny.

$$R^2 = .54 \quad R = \sqrt{R^2} = .74$$

at the .01 level an  $F$  value of 7.08 with 1 and 40 degrees of freedom is required, while an  $F$  value of 4.08 is required to be significant at the .05 level.) Although wages did not approach the .05 level of significance, it was retained as the sixth concomitant variable since two of the hypotheses tested required a work situation variable as part of the test.

Again, the six variables to be treated as concomitant in the analysis of covariance design are: RVO-II, moral attributes in man's work or nature; CTP-1c, sense of personal freedom; GATB-N, numerical; SCVO-II, control of destiny; CTP-2b, social skills; and wages.

#### Testing of the Hypotheses

To determine if significant differences in job satisfaction exist among experimental groups and the control group, a multiple analysis of covariance test of significance was made.

Hypothesis 1: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three, and the control group when certain work situation variables and pretest personal characteristic variables are treated, each as a concomitant variable in an analysis of covariance statistical design.

Table X gives the  $F$  values and adjusted sums of squares, while Table XI gives the adjusted means for each group and each of the "X" variables.

Table X indicates that the obtained  $F$  values were all less than the .05 level of significance. Therefore, the null hypothesis is accepted and one concludes that no significant differences in job

TABLE X  
ANALYSES OF COVARIANCE OF JOB SATISFACTION SCORES  
AMONG EXPERIMENTAL GROUPS AND CONTROL GROUP

Source of Variation	<u>df</u>	Adjusted Sum of Squares	Variance Estimate	<u>F</u> <sup>a</sup>	<u>p</u>
GATB-N as Concomitant Variable					
Total	53	2647.5037			
Between	3	179.5336	59.8445	1.212	.25 < p < .50
Within	50	2467.9701	49.3594		
RUO-II as Concomitant Variable					
Total	53	2880.3032			
Between	3	217.8624	72.6208	1.364	.25 < p < .50
Within	50	2662.4409	53.2488		
Wages as Concomitant Variable					
Total	53	2906.6381			
Between	3	236.9853	78.9951	1.480	.10 < p < .25
Within	50	2669.6528	53.3931		
CTP-2b as Concomitant Variable					
Total	53	2958.4633			
Between	3	281.4987	93.8329	1.753	.10 < p < .25
Within	50	2676.9646	53.5393		
SCVO-II as Concomitant Variable					
Total	53	2974.1174			
Between	3	362.2369	120.7456	2.311	.05 < p < .10
Within	50	2611.8805	52.2376		
CTP-1c as Concomitant Variable					
Total	53	2869.6954			
Between	3	378.3269	126.1090	2.531	.05 < p < .10
Within	50	2491.3685	49.8274		

<sup>a</sup>To be significant at the .05 level, with 3 and 50 degrees of freedom, an F of 2.80 is required.

TABLE XI  
ADJUSTED MEANS FOR TABLE X

Group	Unadjusted Means	Job Satisfaction Score Means When Adjusted For					
		GATB-N	Wages	RUO-II	CTP-2b	SCVO-II	CTP-1c
Academic-Vocational	67.88	67.17	67.73	67.56	67.79	68.32	67.77
Vocational	65.50	66.56	65.48	65.75	65.51	64.71	65.99
Academic	66.00	65.35	65.85	65.95	66.01	65.75	66.43
Control	60.75	61.76	61.39	61.37	61.01	60.91	59.86
Unadjusted mean for all subjects (common mean): 66.00							

satisfaction occurred among experimental groups and the control group when each of the concomitant variables are treated individually. However, Table X shows that when SCVO-II and CTP-1c were "adjusted for", the F values did approach significance at the .05 level.

Table XI, which shows the adjusted means from the analysis of covariance, indicates that four means, those "adjusted for" GATB-N, Wages, RUO-II and CTP-2b, tended to regress toward the common mean of the four groups, while two means, those "adjusted for" SCVO-II and CTP-1c, tended to regress away from the common mean.

Hypothesis 2: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three, and the control group when certain work situations variables are held as concomitant variables in an analysis of covariance statistical design.

The basic data for testing this hypothesis was presented under hypothesis 1; however, since the research design was constructed to account for work situation variables and since hourly wages was the only variable to be retained in the final analysis as representing the work situation, a review of these data are presented.

The computed  $F$  value from Table X was 1.480, with 3 and 50 degrees of freedom. On the basis of this value the null hypothesis was accepted that no significant differences exist among experimental groups and the control when the work situation variable is "adjusted for" statistically. Table XI indicates that the adjusted means tended to be consistent with the means, with the control group tending to regress toward the common mean.

Hypothesis 3: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three, and the control group when certain pretest personal characteristics are treated as concomitant variables in an analysis of covariance design.

Data from Table XII shows an  $F$  value of .942 with 3 and 46 degrees of freedom. From this, the null hypothesis is accepted that no significant differences occurred between experimental groups and the control group when personality characteristic variables of GATB-N, CTP-1c, CTP-2b, RUO-II, and SCVO-II were statistically "adjusted for" in an analysis of covariance. Table XIII indicates that there tended to be regression toward the common mean, with the academic-vocational group and the control group making the greatest amount of regression. It was also noted that the vocational group seemed to make a definite regression away from the common mean.

TABLE XII  
ANALYSIS OF COVARIANCE OF JOB SATISFACTION SCORES  
AMONG EXPERIMENTAL GROUPS AND CONTROL GROUP

Source of Variation	df	Adjusted Sum of Squares	Variance Estimate
Total	53	1645.5796	
Between	3	95.1996	31.7332
Within	50	1550.3800	33.7039

$F_{3,46} = \frac{31.7332}{33.7039} = .942 \quad .25 < p < .50$

Concomitant variables: GATB-N, CTP-1c, CTP-2b, RUO-II, SCVO-II

$R^2 = .49 \quad R = \sqrt{R^2} = .70$

TABLE XIII  
ADJUSTED MEANS FOR TABLE XII

Group	Unadjusted Means	Adjusted Means
Academic-Vocational	67.88	66.70
Vocational	65.50	66.81
Academic	66.00	65.42
Control	60.75	62.81

Unadjusted mean for all subjects (common mean): 66.00

Hypothesis 4: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three, and the control group when certain work situation variables and pretest personal characteristic variables combined are treated as concomitant variables in an analysis of covariance design.

The computed F value of .678 with 3 and 45 degrees of freedom is given in Table XIV. On this basis the null hypothesis is accepted that no significant differences exist among experimental groups and the control group when work situation and personal characteristic variables were statistically "adjusted for" in the analysis of covariance. As was the case in testing hypothesis 3, Table XV indicates that the vocational-academic and control group seemed to make a definite regression toward the common mean, while the vocational group seemed to regress away from the common mean.

TABLE XIV

ANALYSIS OF COVARIANCE OF JOB SATISFACTION SCORES  
AMONG EXPERIMENTAL GROUPS AND CONTROL GROUP

Source of Variation	<u>df</u>	Adjusted Sum of Squares	Variance Estimate
Total	48	1564.7167	
Between	3	67.6868	22.5623
Within	45	1497.0299	33.2673

$$F_{3,45} = \frac{22.5623}{33.2673} = .678 \quad .50 < p < .75$$

Concomitant variables: GATB-N, Wages, RUO-II, CTP-2b, SCVO-II, CTP-1c

$$R^2 = .5085 \quad R = \sqrt{R^2} = .71$$

TABLE XV  
ADJUSTED MEANS FOR TABLE XIV

Group	Unadjusted Means	Adjusted Means
Academic-Vocational	67.88	66.54
Vocational	65.50	66.84
Academic	66.00	65.31
Control	60.75	63.36
Unadjusted mean for all subjects (common mean): 66.00		

## CHAPTER V

### CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The intent of this chapter is to; first, discuss some limitations of the study; second, develop conclusions as derived from the analysis of data presented in Chapter IV; and third, to present recommendations for further research.

#### Limitations

Before considering the conclusions, it seems important to point out some conditions which may cast limitations on the findings. The reader should be cognizant of these limitations so that the tendency to overinterpret or overgeneralize may be reduced.

First, the reader is cautioned that the population sample is not, nor was it intended to be, a representative sample of workers. The sample was quite different in many respects from the samples usually encountered in job satisfaction research. Rather than the usual sample of skilled and semiskilled industrial workers, the population sample consisted of employed subjects in an experimental school dropout retraining program, utilizing a control group. Therefore, it would seem improper to generalize the findings, uncritically, to other populations. For example, specific personality characteristics of this population may not hold in other samples and one would not expect the range of job satisfaction scores to necessarily be comparable to other samples.

Second, this writer recognizes the limitations introduced in the selection of any single instrument as a measurement of a specific variable, such as job satisfaction, adjustment, or social values.

More specifically, the Brayfield-Rothe Job Satisfaction Blank is subject to the same criticism as any other measure of direct attitude. Listed below are some of the objections to the direct method of measuring attitudes:

1. Reluctance of individuals to express their feelings or attitudes.
2. The lack of awareness of some individuals of their feelings toward work.
3. A possibility that individuals will tend to give "socially acceptable" responses.
4. At times individual feelings about work may be so mixed and confused that it is difficult for respondents to relate to the question.

Some basic limitations of the file data pretest scores were discussed previously in Chapter III.

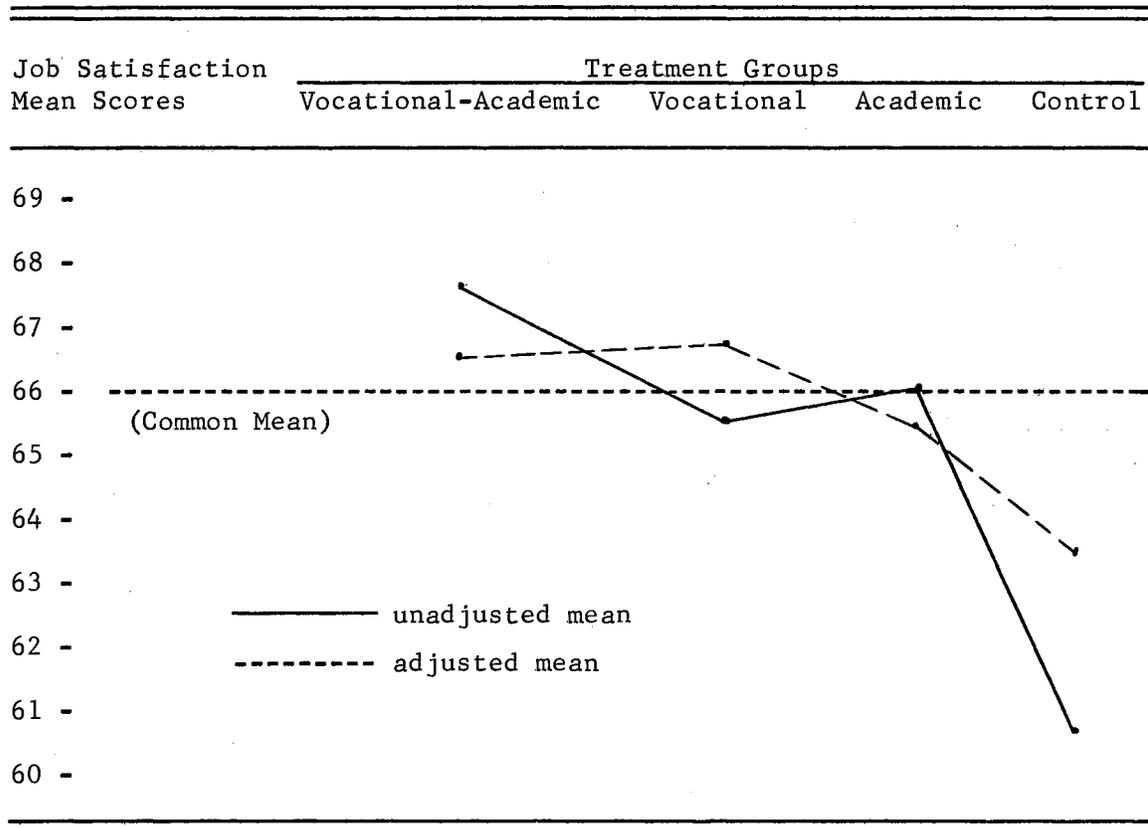
The third set of limitations imposed are those associated with ex post facto research. Kerlinger (16), on page 371, suggests this when he states:

Ex post facto research has three major weaknesses. . . (1) the inability to manipulate independent variables, (2) the lack of power to randomize, and (3) the risk of improper interpretation. In other words, other things being equal, ex post facto research lacks control; this lack is the basis of the third weakness: the risk of improper interpretation.

A fourth limitation is the writer's concern that only 55 subjects from a possible total of 144 were employed one year after training (Table III). This seems to pose the question, "Is this study dealing

TABLE XVI

GRAPHIC PRESENTATION OF ADJUSTED MEANS FOR TABLE XV



only with a highly motivated sample?" If so, this would further restrict generalizing to other populations.

A fifth apparent limitation is the potential bias introduced into the study by not controlling for those who received diplomas as a result of their completing graduation requirements, as opposed to those who did not.

#### Conclusions

The intent of this section is to develop the conclusions derived from the data presented in Chapter IV. It is subdivided into two parts:

part one deals with the two questions as stated in Chapter I, while part two treats conclusions related to the hypotheses.

#### Conclusions Concerning Questions Generated by the Design

Although the data for question 1 shows no significant difference among group means before "adjusting for" concomitant variables, a closer examination of the data shows that the F test value of 1.97 approaches the .10 confidence level.

From Table XVI, which is presented at this time as a visual reference point for the reader, it is noted that a fairly large spread seems to occur between unadjusted means of the vocational-academic group and the control group. At the risk of violating a standard, that is, applying a means test after a nonsignificant F, (8, p. 295), an a posteriori t test was applied between the high and low mean. The calculated t was 2.41 with 13 and 25 degrees of freedom. To be significant at the .05 level, a t of 2.11 is required. Since this is an a posteriori test, the probability level should be discounted somewhat.

From this, one may conclude that although no significant differences occur among groups, the two extreme means do, in fact, differ significantly from each other. Therefore, before "adjusting for" differences in wage and personal characteristic variables, the vocational-academic treatment group showed a greater level of job satisfaction than did the control group.

At this point, one may say that this is to be expected in that our society emphasizes the acquisition of both a high school diploma and skill training to compete in today's labor market. The control group, who for all practical purposes, has neither of these labor entry advantages and is generally destined to have poor pay and long hours.

However, in light of conclusions drawn later from the testing of the hypotheses, this generalization is questionable.

In order to proceed with some confidence, it seemed important to test for significant differences in job satisfaction between male and female subjects. The findings in this study support the general findings in the literature that job satisfaction scores do not tend to differ between male and female subjects.

#### Conclusions Concerning the Testing of the Hypotheses

Hypothesis 1: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation and personal characteristic variables are treated, each as a concomitant variable, in an analysis of covariance statistical design.

Table X summarizes the analysis of covariance F test data for each of the concomitant variables treated separately. From these data one may observe that SCVO-II (control of destiny) and CTP-1c (sense of personal freedom) approach the .05 confidence level, while GATB-N (numerical), RUO-II (moral attributes in man's work or nature), Wages, and CTP-2b (social skills) did not approach the .05 level of significance. Therefore, it seems possible to infer that SCVO-II and CTP-1c were sufficiently correlated with the dependent variable (job satisfaction) scores to have a significant impact on the adjusted mean score of the dependent variable.

Hypothesis 2: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation variables are held as concomitant variables in an analysis of

covariance statistical design.

Since the adjusted means (Table X) tended to be consistent with unadjusted means, one might conclude that wages was not sufficiently correlated with the dependent variable (job satisfaction) to make an impact on the adjusted mean score of the dependent variable.

The literature seems to support this position in that most studies tend to show that wages have only moderate effect on job satisfaction, (12), (27).

Hypothesis 3: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain pretest personal characteristics scores are treated as concomitant variables in an analysis of covariance design.

In a somewhat different manner than in hypothesis 2, adjusted means tended to regress toward the common mean rather than remain somewhat constant with the unadjusted means. This may indicate that personal characteristic variables were sufficiently correlated with the dependent variable (job satisfaction) so as to make a significant impact on the adjusted mean score of the dependent variable.

An examination of the footnotes of Table XII gives an  $R^2$  of .49 for the group of concomitant variables associated with the dependent variable, and a multiple correlation of coefficient of .70. It is possible to conclude that the five personal characteristic variables are predicting some 49 per cent of the variance associated with the dependent variable. The  $R$  of .70 indicates that one may conclude that the concomitant variables show a relatively high correlation with the dependent variable.

Hypothesis 4: There is no significant difference in job satisfaction mean scores among experimental group one, experimental group two, experimental group three and the control group when certain work situation variables and pretest personal characteristic variables combined are treated as concomitant variables in an analysis of covariance statistical design.

Although no significant differences occurred among groups, even at the chance confidence level (  $F_{3,45} = .678, .50 < p < .75$  ) one will note from Tables XV and XVI that the two means which showed a significant difference before "adjusting for" concomitant variables, did tend to regress toward the common mean. A somewhat unexpected adjustment was made when the vocational group mean tended to regress away from the common mean.

A conclusion may be made that the work situation and the personal characteristic variables combined were sufficiently correlated with the dependent variable to make a substantial adjustment on its score.

Table XIV shows an  $R^2$  of .51 for the group of six concomitant variables associated with the dependent variable. A conclusion may be made that these variables are predicting some 51 per cent of the variance associated with job satisfaction. The multiple correlation coefficient of .71 would again indicate that the concomitant variables were rather highly correlated with job satisfaction.

Although it was not the intent of this dissertation to develop or present a theoretical model as such, a model of sorts did evolve from the review of literature. This model was inferred in the statement of the problem and in Chapter III. Hypothesis 4, in a way, is a demonstration of this model. Stated simply this model is: job satisfaction is

equal to the sum of the work situation and personal characteristic variables of the individual worker. Stated another way: by "adjusting for" work situation and personal characteristic variables in an analysis of covariance design, one may predict a larger percentage of the variance associated with job satisfaction. This writer would remind the reader that this model is not new, in that several investigators have suggested or inferred its use, (12, (27)). What is unique, as far as can be determined, is the statistical analysis applied to the theoretical model.

It is a further conclusion of this writer that no significant difference in job satisfaction occurred among the treatment groups of "Time 1" posttested subjects included in this sample when certain work situation and personal characteristics are "adjusted for" statistically.

This writer also feels that the conclusion is justified, that a combination of certain work situation and personal characteristic variables with an analysis of covariance statistical model is a functional framework in which a substantial amount of variance associated with job satisfaction can be accounted for statistically.

It is also noted that two batteries, the Kuder Preference Record and the IPAT Anxiety dropped out completely after the first regression pass. One could conclude that the various sub-scores dropped out or remained on a chance basis. However the writer prefers the conclusion that the scores which dropped out were highly correlated with certain of the concomitant variables while having a low correlation with the dependent variable, therefore predicting only a small amount of the variance associated with the dependent variable.

### Recommendations for Further Study

From the experience gained in working with the Brayfield-Rothe Job Satisfaction Blank as applied to the sample population of this study, the following recommendations are presented.

1. The theoretical model, as inferred in the study, associated with the analysis of covariance statistical model appears to be a functional model for practical use and should be tested with a similar population. However, it appears that one would want to collect the data so that more work situation variables could be used in his analysis. This approach might help the investigator account for more of the variance associated with the dependent variable, job satisfaction.

2. Since the writer found himself a little uncomfortable with the small number of subjects in some of the groups, he recommends that one attempting a study with a similar population take into account the large percent of shrinkage that is likely to occur from the initial sample.

3. The writer was generally satisfied with the ability of the Brayfield-Rothe Blank to discriminate with this particular population sample. For the total group a mean of 66.00 and a standard deviation of 7.48 was obtained. The range for the total group was from 40 to 87. Since the instrument seemed "adequate" it is recommended that some type of normative data be developed to enhance the interpretation ability of future studies by providing a norm reference group.

## CHAPTER VI

### SUMMARY OF THE STUDY

The purpose of the dissertation was to report an investigation of differences in job satisfaction scores, one year after training, between experimental and control groups of the 1964-1965 School Dropout Rehabilitation Project in Oklahoma City.

Selection procedures, staff procurement, curricula, and financial arrangements for the basic program of the Oklahoma City project, under the auspices of the Manpower Development and Training Act of 1962, as amended, is a joint product of three agencies, the Oklahoma Employment Securities Commission, the Oklahoma State Board for Vocation Education, and the Oklahoma City Public Schools. Further, the research (from experimental design to evaluation), both during training and two years after training, were supported by a private agency, the Ford Foundation.

The research design for this study is basically ex post facto in nature and is based on the experimental design of the Ford Foundation project. The design for this study incorporates a measure of job satisfaction as the dependent variable. The experimental groups and control group, that is, the academic-vocational group, vocational group, academic group, and the control group, were treated as the independent variables. The possible concomitant variables ("X" variables) entered into a multiple regression equation, were the sub-scores from GATB, KPR-P, IPAT, CTP, SCVO, RUO, Wages and number of jobs held. Of these,

six scores were treated as variables concomitant with job satisfaction scores and were entered into a multiple analysis of covariance statistical design.

From a review of selected literature covering the concept of job satisfaction, one finds at least three assumptions necessary to form a theoretical framework for this study. From the limitations imposed by the design, these assumptions are: (1) job satisfaction is an attitude of an individual toward his job, (2) worker attitudes are affected by both the work environment and the nature of the individual, and (3) job satisfaction is to be viewed as a summated or "over-all" concept.

Most of the statistical procedures used in these various studies have usually been restricted to percentages and linear correlation analyses; however some factor analysis and a few studies using a regression analysis have appeared during the past few years. Also, the literature supports the generalizations that a large majority of the studies involving job satisfaction and work situation variables show correlations ranging from low negative correlation, to zero correlation, to low positive correlation. Many of the studies involving job satisfaction and worker personality variables tend to yield moderate correlations. Writers in the area of job satisfaction seem to agree that a combination of these two approaches would probably yield more significant results.

The collection of data was achieved in conjunction with data collected on the Ford Foundation project. A measure of job satisfaction was accomplished by the administration of the Brayfield-Rothe Job Satisfaction Blank, which was attached as an appendix to the Youth Opportunity Follow-up Survey. Due to the various training completion dates,

data collection was spread over a period of time from January, 1966 to June, 1966.

Four statistical procedures were used to analyze the data: a t test for means with unequal numbers, an one-way classification of the analysis of variance, a multiple regression analysis, and a multiple analysis of covariance.

Several conclusions were made from the analysis of data. First, no significant differences in job satisfaction occurred among experimental groups and the control group before "adjusting for" concomitant variables. Second, since no significant differences in job satisfaction mean scores among experimental and control groups occurred when each of the four hypotheses were tested, it was concluded that the treatment offered by the Ford Foundation project had no significant effect on job satisfaction scores, one year after training, for the "Time I" posttested group. Third, of the 38 personal characteristic variable sub-scores entered into the multiple regression equation, only eleven variables acquired an F test value of 1.0 or greater. From these eleven, only five (Table IX) were predicting the variance with an F significant at or greater than the .05 confidence level. Finally, one of the more important results of this study is that some 51 per cent of the variance associated with job satisfaction scores was accounted for by use of the model which combined both the work situation and personal characteristic variables with an analysis of covariance statistical model.

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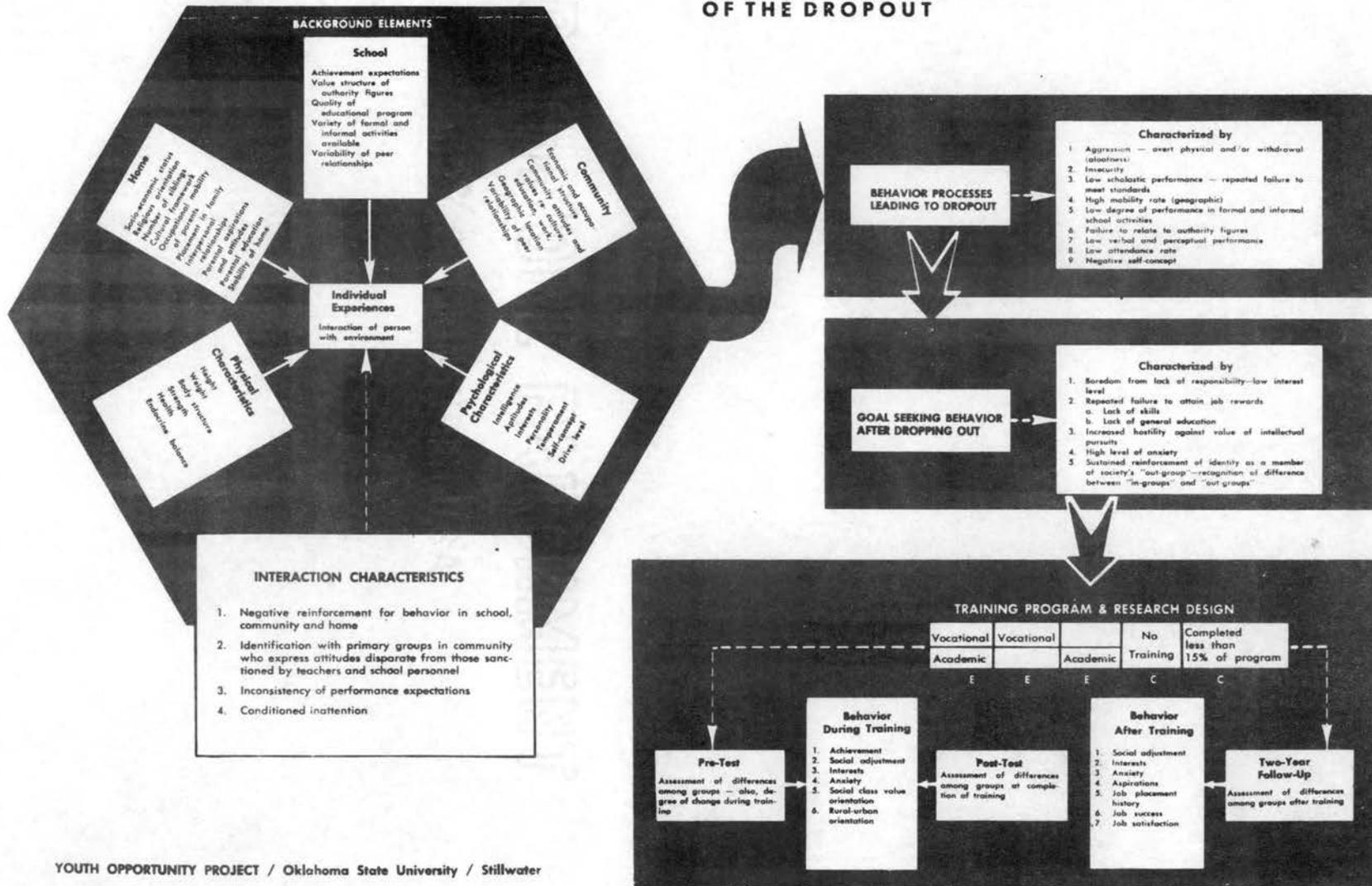
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APPENDIX A

FORD FOUNDATION RESEARCH PARADIGM

## ETIOLOGY AND REHABILITATION OF THE DROPOUT



APPENDIX B

DATA COLLECTION INSTRUMENTS

Code No. \_\_\_\_\_

## YOUTH OPPORTUNITY FOLLOW-UP SURVEY

Sponsored by Oklahoma State University and the Ford Foundation

This survey contains general questions about yourself and your plans. Please answer the question as clearly and honestly as you can. Your individual answers will be kept confidential.

**GENERAL INSTRUCTIONS:** Please read each item carefully. Answer all items that apply to you, and skip those that do not apply.

### I. GENERAL INFORMATION:

A. For each place you have lived during the last six months, would you tell us the following:

Your Address	Dates You Lived There	Relationship of Those Who Live or Lived With You
_____	_____ to _____ <small style="margin-left: 100px;">now</small>	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

B. Where you are living now, are you renting \_\_\_\_\_, buying \_\_\_\_\_, or just staying with someone \_\_\_\_\_? (Please check one.)

C. What is your present marital status? \_\_\_\_\_

D. Has this changed during the last six months? No \_\_\_\_\_ Yes \_\_\_\_\_ If yes, in what way?  
\_\_\_\_\_

E. If married, what is your husband or wife's occupation now? \_\_\_\_\_  
For whom does he or she work (if employed)? \_\_\_\_\_

### F. Your Present Occupational Status:

Circle ALL statements that apply in the list below. Then give any additional explanation that might be necessary.

- | Men  | Women  |
|--|--|
| 1. Student                                 | 1. Student   |
| 2. Military (Active Duty)                  | 2. Housewife   |
| 3. Employed, full time                     | 3. Employed, full time                                 |
| 4. Employed, part time                     | 4. Employed, part time                                 |
| 5. Not employed, not actively seeking work | 5. Maternity leave, plan to return or continue working |
| 6. Not employed, actively seeking work     | 6. Not employed, not actively seeking work             |
| 7. Disabled (Please explain)               | 7. Not employed, actively seeking work                 |
| 8. Other (Please explain)                  | 8. Other (Please explain)                              |

Explanation: \_\_\_\_\_

G. Regardless of what you are doing, how do you feel about the life you are now living? (Circle best answer below)

- 1. I really like it.
- 2. My likes just balance my dislikes.
- 3. I don't like it, but I will have to put up with it.
- 4. I hate it.

H. Will you tell why you circled the one you did.

---



---



---

I. If not employed, what are the main sources of your income or support?

---

II. JOB INFORMATION: If employed AT ALL outside the home now, would you answer the following:

A. Name of company or employer: \_\_\_\_\_

B. Date you first started on this job or with this employer: \_\_\_\_\_

C. What do you actually do on this job now? \_\_\_\_\_

---

D. How does this differ from what you did when you first started on this job? \_\_\_\_\_

---

E. How many hours did you work on this job last week? \_\_\_\_\_ How many hours do you usually work? \_\_\_\_\_

F. Would you estimate your total take home pay for last week? \_\_\_\_\_

G. How does this pay compare with what you got when you first started on this job? \_\_\_\_\_

---

H. What sort of training, if any, have you been given by this employer? \_\_\_\_\_

---

III. JOB SATISFACTION:

A. If employed at all outside the home now, we would like for you to tell us how you feel about your present job. (Circle best answer at right of page.)



- 1. I really like my job.
- 2. My likes just balance my dislikes.
- 3. I don't like it, but I will have to put up with it.
- 4. I hate it.

B. What things do you like MOST about your job? \_\_\_\_\_

---

C. What things do you like LEAST about your job? \_\_\_\_\_

---

D. If you had it to do over, would you try to get this type of job again? \_\_\_\_\_

---

E. Do you expect to continue with your present job? Yes \_\_\_\_\_ No \_\_\_\_\_ Undecided \_\_\_\_\_  
 If not, why? \_\_\_\_\_  
 About when do you plan to change? \_\_\_\_\_  
 What will you do then? \_\_\_\_\_

F. On the whole do you feel your present line of work offers opportunity for you to do the things you can do best?  
 Yes \_\_\_\_\_ No \_\_\_\_\_ Why or why not? \_\_\_\_\_

**G. WOULD YOU NOW COMPLETE THE SEPARATE FORM WITH THE WORDS JOB OPINIONS AT THE TOP.**

**IV. OTHER JOBS HELD DURING THE LAST SIX MONTHS:**

A. How many different jobs have you had during the last six months that you do not hold now? \_\_\_\_\_  
**B. PLEASE DESCRIBE EACH OF THESE JOBS ON THE BACK OF EXTRA SHEET ENCLOSED.**

**V. PERSONAL INFORMATION:**

A. Regarding your spare time, what do you do with your time when there is nothing you have to do? \_\_\_\_\_

B. Would you list any groups that you belong to or take part in like clubs, unions, church or religious groups.

C. Do you ever read in your spare time? Yes \_\_\_\_\_ No \_\_\_\_\_  
 1. What type of magazines, books, etc. (if any)? \_\_\_\_\_

2. Do you read the newspaper? Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please check about how often you read the parts of the newspaper listed below.

	1. Daily	2. Weekly	3. Monthly	4. Never
a. Front page news	_____	_____	_____	_____
b. Sports page	_____	_____	_____	_____
c. Editorials	_____	_____	_____	_____
d. Comics	_____	_____	_____	_____

D. During the last six months, have you been studying any kind of special courses, home study courses or correspondence courses? Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please describe.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

E. Have you been going to any kind of school during the last 6 months? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what kind? \_\_\_\_\_

Could you tell me why you are doing this or how you plan to use what you learn?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**VI. FOR PERSONS WHO WERE IN MANPOWER TRAINING CLASSES**

A. Looking back at the Manpower program in general, in what ways did it help you most?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

B. In what way could it have helped you more? (What do you wish you had gotten that you did not?)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**VII. Future Plans FOR ALL PERSONS**

A. What would you really like to be doing two years from now? \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

B. Do you expect to be doing what you would really like two years from now? Why or why not? \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**VIII. Information for next follow-up FOR ALL PERSONS**

A. We are very interested in keeping in touch with you and will check with you again in about six months. To help us in contacting you then, would you please answer these questions:

1. Where will you most likely be living six months from now? \_\_\_\_\_

2. Would you tell us the names and addresses of two people who will always know where you are living.

Name	Address	Phone Number
_____	_____	_____
_____	_____	_____

Code No. \_\_\_\_\_

**JOB OPINIONS\***

Some jobs are more interesting and satisfying than others. We want to know how people feel about different jobs. This blank contains eighteen statements about jobs. There are no right or wrong answers. We would like your honest opinion on each of the statements.

**Directions:** IF NOW EMPLOYED, PLEASE **CIRCLE** THE PHRASE BELOW EACH STATEMENT WHICH BEST DESCRIBES HOW YOU FEEL ABOUT YOUR PRESENT JOB.

- |  |                |       |           |          |                   |
|--|----------------|-------|-----------|----------|-------------------|
| 1. My job is like a hobby to me.                                       | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 2. My job is usually interesting enough to keep me from getting bored. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 3. It seems that my friends are more interested in their jobs.         | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 4. I consider my job rather unpleasant.                                | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 5. I enjoy my work more than my leisure time.                          | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 6. I am often bored with my job.                                       | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 7. I feel fairly well satisfied with my present job.                   | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 8. Most of the time I have to force myself to go to work.              | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 9. I am satisfied with my job for the time being.                      | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 10. I feel that my job is no more interesting than others I could get. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 11. I definitely dislike my work.                                      | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 12. I feel that I am happier in my work than most other people.        | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 13. Most days I am enthusiastic about my work.                         | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 14. Each day of work seems like it will never end.                     | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 15. I like my job better than the average worker does.                 | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 16. My job is pretty uninteresting.                                    | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 17. I find real enjoyment in my work.                                  | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 18. I am disappointed that I ever took this job.                       | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |

\* This instrument is the Brayfield-Rothe Job Satisfaction Blank (1). The title and directions were changed to meet the needs of the study, with the written permission of Dr. Arthur H. Brayfield.

APPENDIX C

INDIVIDUAL SCORES OF SUBJECTS  
PARTICIPATING IN THE STUDY

Subject Number	Group* Number	Job						
		Satisfaction Scores	GATB-N Scores	RUO-II Scores	Hourly Wages	CTP-2b Scores	SCVO-II Scores	CTP-1c Scores
002	4	44	074	4	1.20	09	8	13
004	1	62	107	3	1.45	11	8	12
005	1	65	097	2	2.37	08	7	13
016	1	68	124	5	1.60	15	8	12
023	1	68	101	3	1.27	15	8	12
025	2	66	084	2	1.36	12	8	14
027	2	72	080	5	1.85	14	7	11
039	4	55	075	5	1.25	09	6	13
047	3	63	105	3	1.64	09	8	10
059	4	70	117	6	1.62	08	7	07
061	1	70	088	5	1.12	06	6	07
074	2	65	055	1	1.29	07	5	07
077	1	64	089	1	1.62	13	7	15
089	2	65	082	5	1.90	15	7	15
094	3	67	082	5	1.45	10	8	14
095	2	70	107	3	1.62	09	5	14
107	2	60	105	7	1.25	12	7	13
108	1	73	082	1	2.53	10	5	15
109	3	68	092	0	1.25	08	7	13
122	1	68	096	5	1.65	09	7	09
128	1	68	109	1	1.37	10	8	13
130	4	52	084	5	1.17	13	7	15
138	1	60	093	4	1.36	10	7	14
142	2	70	090	1	1.36	15	8	14
154	3	60	082	2	1.20	09	6	10
157	1	70	090	2	1.65	09	7	08
163	2	40	094	6	1.33	12	7	14
168	3	67	105	6	1.62	10	5	12
171	1	66	084	4	1.14	15	8	14
176	4	73	103	3	0.55	09	7	07
179	2	75	069	4	1.25	07	4	10
181	1	55	067	2	1.06	07	8	13
189	1	79	103	4	1.30	08	6	11
194	4	60	061	4	1.35	10	7	13
200	3	68	117	5	2.30	15	8	15
207	1	72	136	4	1.75	11	8	12
221	1	65	052	3	2.15	10	7	08
224	3	69	105	2	1.62	15	6	15
226	1	72	111	2	1.25	11	8	10
234	2	74	102	5	1.31	14	7	14
238	1	65	097	4	1.30	13	8	12
257	1	62	103	0	1.45	11	8	15
261	1	69	099	3	2.92	12	7	12
271	1	68	115	2	1.50	14	7	14
276	4	64	082	3	1.87	08	8	08
277	1	71	090	4	1.05	11	6	11
279	2	66	103	2	1.30	14	7	15
290	1	69	110	3	2.00	14	8	14
295	1	70	113	1	1.47	12	8	13
296	4	68	094	4	1.25	15	7	14
299	2	69	076	4	1.70	11	5	13
302	2	59	078	2	1.70	03	8	14
325	1	59	094	6	1.05	10	7	14
327	1	87	119	1	1.88	15	8	12
333	2	66	078	5	2.24	07	6	11

\* refers to Group 1: academic-vocational group, Group 2: vocational group, Group 3: academic group, Group 4: control group.

APPENDIX D

STATISTICAL EQUATIONS USED IN THE STUDY

## Statistical Equations

1. t test for means with unequal groups (28):

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sum x_1^2}{k_1(k_1-1)} + \frac{\sum x_2^2}{k_2(k_2-1)}}}$$

2. Single Classification Analysis of Variance (28):

$$S.S._t = \sum X^2 - \frac{(\sum X)^2}{N}$$

$$S.S._g = (\sum X_1)^2 + (\sum X_2)^2 + \dots + (\sum X_k)^2 - \frac{(\sum X)^2}{N}$$

$$S.S._w = [S.S._t - S.S._g]$$

$$F = \frac{\text{Group Variance Estimate}}{\text{Within Variance Estimate}}$$

3. Multiple Regression (26):

$$Y_i = \mu + X_1 B_1 + X_2 B_2 + X_3 B_3 + \dots + X_k B_k + e_i$$

4. Multiple Analysis of Covariance (7):

$$Y_{ij} = \mu + \tau_i + X_{1j} B_1 + X_{2j} B_2 + X_{3j} B_3 + \dots + X_{kj} B_k + e_{ij}$$

VITA

Gaylen Rayford Wallace

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